



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 January 2025 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/scoping review or meta-analysis of relevant studies.
Level 2	Evidence from a randomized controlled trial
Level 3	Evidence from a controlled intervention trial without randomization (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 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

Personal, occupational and cardiovascular risk factors associated with elevated blood pressure in Brazilian firefighters: A cross-sectional study

Objective: Our study evaluated the prevalence of hypertension in a population of Brazilian firefighters and the association of elevated blood pressure (BP) with personal, occupational, and cardiovascular risk factors.

Design: This was a cross-sectional study. **Setting:** Our study was based on health inspections of the Military Fire Brigade of the Espírito Santo State, Brazil, performed in 2019. **Participants:** The study participants were 859 male Brazilian firefighters. **Outcome measures:** Data collected included sociodemographic (age, ethnicity, educational level, health insurance coverage), occupational (city of work, type of current activity, main operational activity), lifestyle (smoking and alcohol consumption), and health status (fasting glucose, total cholesterol and triglycerides, blood pressure, and anthropometric composition). All firefighters in the pre-hypertension and hypertension range and/or using antihypertensive medication were considered as having BP above normal, and the association of this outcome with sociodemographic, occupational, lifestyle, and health status variables was analysed by a logistic regression model. **Results:** We found that 45.6% of firefighters presented elevated BP levels. A higher chance of elevated BP was observed for firefighters with high school (1.5; 95% confidence interval (CI) 1.02 to 2.19) and postgraduate (1.54; 95% CI 1.03 to 2.30) educational levels, those self-declared as black (1.98; 95% CI 1.03 to 3.78), those working in countryside cities (ie, locations outside the metropolitan circuit; 2.32; 95% CI 1.14 to 4.71), and those with hypertriglyceridemia (1.92; 95% CI 1.19 to 3.11), hyperglycaemia (1.5; 95% CI 1.01 to 2.22), and central obesity (2.34; 95% CI 1.47 to 3.70). **Conclusion:** We found an association between elevated BP and personal, occupational, and cardiovascular risk factors. Awareness of risk factors may grant implementation of more effective intervention and prevention strategies.

Sales et al. 2025.

BMJ Open, vol. 15, no. 1.

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Keywords: Blood pressure; cardiovascular disease; hypertension; occupational & industrial medicine.

Evidence Level: 4B

Link: <https://bmjopen.bmj.com/content/15/1/e088084.long>

A comparison of periodic health examinations and workplace health screening for workers in Singapore and Japan

This article aims to provide a historical overview of how workplace safety and health legislations in Singapore and Japan have evolved, and perform a comparative analysis of the occupational health systems where work-related medical examinations and health screening are concerned. The discourse is centered on three key themes-coverage, comprehensiveness, and continuity of care. The comparative analysis was performed based on secondary data obtained from open-source platforms. Singapore and Japan have robust workplace safety and health legislative frameworks and laws. However, their approaches diverge because of differing socioeconomic and political contexts. Japan's regulations are generally more comprehensive, require more frequent monitoring of workers' health status, and encompass both physical and mental health components. Singaporean companies focus primarily on the physical component of health, and statutory examinations are required only for exposure to specific occupational hazards. With increasing prominence of mental health issues and shift towards preventive care in Singapore, there will be greater emphasis on a holistic approach to each employee's overall health in future. For Japan, the challenge would be to strike a balance between long-term sustainability of current policies against the need for state and corporations to still retain an adequate stake in ensuring workers' overall health.

Seah et al. 2025.

Industrial Health, vol. 63, no. 1.

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Keywords: Health examination; health screening; japan; legislation; medical examination; Singapore.

Evidence Level: 4B

Link: https://www.jstage.jst.go.jp/article/indhealth/63/1/63_2024-0046/article

The workplace experiences of transgender and gender diverse employees: A systematic literature review using the minority stress model

Transgender and gender diverse (TGD) employees encounter unique challenges in the workplace that are not shared with the rest of the working population. In this study, we conducted a systematic review of 58 empirical studies on the workplace experiences of TGD individuals published in peer-reviewed journals between 2000 and 2022. Using the Minority Stress Model as a theoretical framework, we classified the literature based on (a) the challenges that TGD employees face when navigating their gender identity at work, (b) the outcomes of minority stress processes, and (c) the mechanisms to ameliorate the impact of minority stressors. Findings suggest that TGD employees are exposed to various distal and proximal stress processes that negatively impact work outcomes and mental health, including discrimination or expectations of rejection. A key protective factor both at the organizational and interpersonal level is support, including inclusive policy development and coworker support. At the intrapersonal level, adaptive coping strategies and an integrated minority identity can countervail the impact of minority stressors. Future research should further examine intrapersonal variables while leveraging broader intersectional and international samples. Practitioners are advised to proactively and continuously review their nondiscrimination policies and practices to promote employee wellbeing and positive work outcomes.

Cancela et al. 2025.

Journal of Homosexuality, vol. 72, no. 1.

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Keywords: Transgender; gender diverse; minority stress; organization; work.

Evidence Level: 1A

Link: <https://www.tandfonline.com/doi/full/10.1080/00918369.2024.2304053>

Mothers' and fathers' experiences of breastfeeding and returning to paid work after birth: A mixed-method study

This mixed-method study explored the experiences of mothers and fathers combining breastfeeding with returning to paid employment after childbirth. Tasmanian State Service employees participated in an online survey and phone interviews. A total of 130 parents completed the survey, and 42 participated in 60-min phone interviews. The survey had more female respondents (109) than male (21), and only 4 of the 42 interviews were with fathers. The sample consisted mainly of professional women (84%) and men (16%), predominantly Australian-born (88%). Two-thirds of participants worked part-time (62%), taking either unpaid (52%) or paid leave (61%) within the first 12 months after birth. The majority (88%) preferred to breastfeed, with the mean age of the first formula feed being 4.1 months. A narrative analysis of the qualitative data, informed by work-family conflict theory, reveals that transitioning back to paid work while breastfeeding is challenging for both mothers and fathers. Parents face multiple conflicts between paid work, family responsibilities and maintaining breastfeeding. The emotional and physical demands of feeding, expressing, storing and transporting breast milk, combined with often inadequate workplace facilities, policies and gender discrimination, add to parental pressure. Mothers bear the greatest burden, while fathers' roles and needs are often overlooked in the workplace. The major finding of this study is that breastfeeding is insufficiently recognised as an integral part of the return-to-work process for both parents, generating a form of work-family breastfeeding conflict, where work (part-time or full-time) interferes with family responsibilities and breastfeeding. Family-friendly breastfeeding policies based on equity principles are needed to address workplace gender inequality and discrimination and better support parents in combining work and breastfeeding.

Ayton et al. 2025.

Maternal and Child Nutrition, vol. 21, no. 1.

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Keywords: Breastfeeding; employment; expressing; fathers; mothers; qualitative.

Evidence Level: 5A

Link: <https://onlinelibrary.wiley.com/doi/10.1111/mcn.13761>

Work Health and Safety

Practical considerations for using personal cooling garments for heat stress management in physically demanding occupations: A systematic review and meta-analysis using realist evaluation

Introduction: Due to rising temperature extremes, workplaces are seeking new solutions, such as using personal cooling garments (PCG) to mitigate and manage workplace heat exposure. This systematic review sought to assess the physiological and perceptual effects of PCGs on workers in standard work clothing performing moderate-to-heavy intensity tasks in hot environments. **Methods:** A peer-reviewed search strategy was conducted in MEDLINE, Embase, CINAHL, Scopus, Global Health, and Business Source Complete with no language or time limits. A meta-analysis using a realist evaluation framework was then performed to evaluate the effectiveness of the PCGs. **Results:** Thirty-three studies with 764 participants (98% male; average 21 ± 34 participants per study), conducted primarily in a laboratory setting (76%) were included. The studies were 193 ± 190 min in duration and consisted of a moderate-to-heavy work effort of 3.3 ± 1.0 METs in hot ambient conditions (temperature: $35.9 \pm 3.3^\circ\text{C}$, $51.4 \pm 12.1\%$ relative humidity, wet bulb globe temperature [WBGT] $31.2 \pm 2.6^\circ\text{C}$). The PCGs ($n = 67$) facilitated heat exchange through conduction ($n = 39$), evaporation ($n = 4$), convection ($n = 2$), radiation ($n = 2$), or hybrid combinations ($n = 20$). Conductive and hybrid PCGs offered the greatest thermoregulatory benefit, whereby core temperature (T_c) and heart rate (HR) reductions were consistently observed (Conductive: $T_c: -0.3^\circ\text{C}$, HR: -12 bpm; Hybrid: $T_c: -0.2^\circ\text{C}$, HR: -10 bpm), while PCGs directed at enhancing evaporative and radiative heat exchange had no or minimal effect on the physiological outcomes assessed (i.e., $T_c < 0.1^\circ\text{C}$, HR: < 0.7 bpm).

Conclusion: While the PCGs had a positive overall effect, conductive options offered the most consistent benefit to workers. WBGT, clothing insulation, and duration of wear significantly affected some physiological and perceptual outcomes.

Tetzlaff et al. 2025.

American Journal of Industrial Medicine, vol. 68, no. 1.

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Keywords: Cooling strategy; heat strain; occupational health and safety; thermal comfort; thermal sensation.

Evidence Level: 1A

Link: <https://onlinelibrary.wiley.com/doi/10.1002/ajim.23672>

Factors associated with lung cancer among firefighters: A systematic literature review

This short review addresses the pressing issue of lung cancer among firefighters, a population facing unique occupational hazards such as smoke inhalation and asbestos exposure. With lung cancer being a leading global cause of death, the study emphasizes the disproportionate burden on firefighters. Notably, wildfire smoke, containing carcinogenic elements, poses a rising significant threat to firefighters' respiratory health. Despite evidence linking firefighting to increased lung cancer risk, few studies have explored the underlying mechanisms. This study conducts a comprehensive review employing PRISMA guidelines to synthesize existing literature from 1972 to 2022. We discuss the association between age, race, and time spent fighting fires with lung cancer development. Our review also underscores the scarcity of studies investigating specific carcinogens and their role in firefighters' lung cancer risk, emphasizing the need for more targeted research. The study advocates for improved methodology, suggesting the use of individual-level exposure metrics like "fire-hours" to enhance causal inference. Despite limitations in current literature, the findings stress the urgency of understanding the intricacies of lung cancer development among firefighters and call for further research to inform preventive measures and potential screening protocols.

Kang et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Bacillus subtilis; firefighters; lung cancer; occupational hazards.

Evidence Level: 1A

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21432-0>

Prevalence and predictors of infected diabetic foot ulcers (DFU) and DFU-related osteomyelitis amongst industrial workers wearing occupational safety footwear

Professionals like deep-miners and factory-workers wear specialized safety-shoes to protect against occupational hazards (OF). The risk factors, clinico-microbiologic profile and complications of diabetic foot ulcers (DFU) in these professionals remain unexplored. A cross-sectional observational study was conducted to describe the unique clinico-microbiologic profile of DFU in those wearing occupational-footwear (OF) and find risk factors for DFU related osteomyelitis in them. Of 331 DFU cases seen over 5 years, those wearing OF (n = 107, 68 underground-miners and 39 steel-factory-workers) had high prevalence of forefoot-DFU (81.3%), dorsal-DFU (58.9%), recurrent-DFU (31.8%) and of polymicrobial infections (16.8%). Those with osteomyelitis in the OF group (n = 53) were younger (53.3 vs. 57, p = 0.02), had higher prevalence of peripheral arterial disease (41.5% vs. 24.1%), past-amputation (28.3% vs. 11.1%), higher SINBAD scores, and were also less likely to change occupational-footwear at <= 6-month-interval (22.6% vs. 55.6%) than those without osteomyelitis (p < 0.05 for all). Increasing age, history of past amputation, CRP and reduced frequency of changing the OF were significant positive risk factors for osteomyelitis. OF change at <= 6-month-interval had a protective effect against osteomyelitis (OR : 0.21, C.I 0.07-0.54, p = 0.002) as well as for recurrence (OR : 15, C.I.: 0.04-0.46, p = 0.002) of DFU. Existing national standards for OF manufacturing and regulations regarding their use in India are inadequate and must be made more stringent for professionals with diabetes, especially those at high risk for DFU like the elderly, history of past amputation or those with LOPS. They need detailed foot-measurements for proper fit, should wear OF always at their work-place and change OF frequently for adequate against DFU-related osteomyelitis as also, recurrent DFU.

Mondal et al. 2025.

Scientific Reports, vol. 15, no. 1.

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Keywords: Diabetic foot ulcer; factory workers; miners; occupational-footwear; osteomyelitis.

Evidence Level: 4A

Link: <https://www.nature.com/articles/s41598-025-86013-y>

Effect of moisture in fire hoods and gloves on residual heat accumulation during repeated rest-work cycles at a fire scene

Firefighters are exposed to the risk of burns at fire scenes. In 2020, the National Fire Agency of the Republic of Korea surveyed 50,527 firefighters and identified 242 burn-related incidents. The body parts affected by these burns were the hands (28.51%), ears (10.74%), and neck (10.33%), with hands and facial areas accounting for ~50% of all burns. This trend implies that gloves and hoods do not provide sufficient protection against burns. Firefighters alternate between activity and rest during firefighting operations to enhance mission efficiency. However, the accumulated heat in their hood and gloves from these repeated cycles has not been considered thus far. This study investigated thermal accumulation patterns based on the moisture content of hoods and gloves, reflecting repeated cycles of work and rest for firefighters. Consequently, heat accumulation occurred in a dry state in both the hood and gloves, and the degree of heat storage was higher in the hood. The glove stored heat even when wet because of its multilayer structural characteristics. These results suggest that repeated activities (work-rest) with gloves and hoods under dry/wet conditions can generate residual heat and heat accumulation, causing burns on the hand and face. This study clearly demonstrated the impact of the moisture conditions of gloves and hoods in repetitive situations where they are exposed to relatively low levels of heat radiation and are then subject

to rest periods. The results of this study are expected to be valuable in designing new protective gear to prevent burn injuries and developing efficient firefighting tactics.

Kim et al. 2025.

Science Progress, vol. 108, no. 1.

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Keywords: Fire hood; fire gloves; heat accumulation; moisture content; safety precautions.

Evidence Level: 4B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11752760/>

Measuring improvements in occupational health and safety in the artificial stone benchtop industry

Objectives: Workers in the stone benchtop industry in Australia are at high risk of silicosis due to exposure to respirable crystalline silica (RCS) from the dry processing of artificial stone. In Victoria, Australia, a multifaceted response including education, regulatory changes, inspection site visits, and occupational health screening programme began in 2019. We aimed to review the success of this approach to safety practices in the industry. **Methods:** Data were available from 2 sources: first, responses provided by workers during their occupational health screening (2019 to 2024), which included a systematic occupational history. Jobs examined included roles in the stone benchtop industry with RCS exposure and were analysed in relation to reported safety practices pre and postregulatory changes in August 2019, which prohibited unrestricted dry cutting. Second, data were obtained from the Regulator describing the numbers of visits to industry worksites and the numbers and types of compliance notices issued between 2018 and 2024. **Results:** In total, 1921 jobs from 1007 workers were eligible for analysis, of which 869 were prior to the 2019 regulatory change and 557 commenced after. The proportion of workers reporting "never" dry cutting rose from 17.3% to 67.2% ($P < 0.001$), use of recommended ventilation and respirator increased from 26.0% to 36.5% ($P < 0.001$), and 44.9% to 86.5% ($P < 0.001$), respectively. Of the 543 worksites visited (2757 site visits in total), 352 (64.8%) received at least one compliance notice and the types of notices varied over time. Administrative controls/housekeeping and health monitoring notices were the most common in 2019 to 2021 but tools/equipment notices increased substantially in 2022 onwards. **Discussion:** Prior to the changes, a large proportion of jobs involved unrestricted dry processing of artificial stone with inadequate protection. After the changes, practices improved although some jobs continued to involve dry processing without adequate control of dust. **Conclusions:** This multifaceted approach vastly improved safety practices in the stone benchtop industry over 5 years. These data are relevant to occupational health and safety professionals and regulators in countries where artificial stone is used and potentially for implementation of new measures in response to a new workplace hazard in future.

Hore-Lacy et al. 2025.

Annals of Work Exposures and Health, vol. 69, no. 1.

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[\(https://creativecommons.org/licenses/by-nc-nd/4.0/\)](https://creativecommons.org/licenses/by-nc-nd/4.0/)

Keywords: Artificial (engineered) stone; occupational health and safety practices; silicosis; stonemasons.

Evidence Level: 4A

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11706797/>

The acceptability of a novel seismocardiography device for measuring VO₂ max in a workplace setting: A mixed methods approach

Background: Workplace health screening rarely includes measures of cardiorespiratory fitness, despite it being a greater predictor of cardiovascular disease and all-cause mortality than other routinely measured risk factors. This study aimed to determine the comparative acceptability of using a novel seismocardiography device to measure cardiorespiratory fitness via VO₂ max during a workplace health check. **Methods:** Participants were invited to participate in workplace health screening sessions where VO₂ max was assessed by both seismocardiography at rest and sub-maximal exercise testing, in order for acceptability of both to be compared across multiple domains. Questionnaires and focus group guides for participants and practitioners were developed based on the Theoretical Framework of Acceptability. Data

were analysed using t-tests and deductive thematic analysis. **Results:** There was a significant difference in the acceptability domain of 'affective attitude' between the novel SCG device ($M = 9.06 \pm 1.14$) and the sub-maximal exercise testing ($M = 7.94 \pm 1.79$); $t = 3.296$, $p = .001$, $d = 0.50$, and in the domain of 'burden' between the novel SCG device ($M = 9.16, \pm 0.55$) and the sub-maximal exercise testing ($M = 7.41 \pm 1.45$); $t = 7.033$, $p = < 0.001$, $d = 1.45$. Practitioners and employees highlighted the potential of seismocardiography to create a more inclusive and accessible workplace offer, allowing those with restricted mobility or those with differing physical or emotional needs to participate in wellness testing; yet there was a lack of understanding in both groups around intervention effectiveness and coherence. **Conclusions:** Seismocardiography may offer an acceptable route to cardiorespiratory fitness testing in the workplace, due to the low effort requirement and simplicity of administration. This study suggests that practitioners delivering such services have a critical role to play in acceptability of health interventions at work, as employees will be heavily influenced by practitioner beliefs around coherence and effectiveness. Comprehensive delivery training is important for the adoption of new health-related technologies such as seismocardiography into workplace health screening.

Carter et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Acceptability.; cardiorespiratory fitness; seismocardiography; VO2 max; workplace health.

Evidence Level: 5B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21480-6>

Ice vests extend physiological work time while wearing explosive ordnance disposal protective clothing in hot and humid conditions

Background: Explosive ordnance disposal (EOD) technicians may be required to work in hot, humid environments while wearing heavy protective clothing. We investigated the ability of an ice vest to attenuate physiological strain and subsequently extend work tolerance. **Methods:** Eight male participants (24.3 ± 4.1 yr, 51.9 ± 4.6 mL kg⁻¹ min⁻¹) walked (4.5 km h⁻¹) in simulated hot and humid conditions (35 °C; 50% relative humidity). Participants wore either an EOD suit (CON) or EOD and ice vest (IV). Heart rate, core and skin temperature were recorded continuously. **Results:** Participants walked longer in IV compared to CON (8.1 ± 7.4 min, $p < .05$). Over 90% of trials were terminated based on participants reaching 90% of their maximum heart rate. IV resulted in cooled skin ($p < .001$) and a physiologically negligible change in core temperature ($p < .001$). A condition by time interaction was identified for heart rate ($p < .001$), with a lower rate of rise in the IV condition. **Conclusions:** The cardiovascular inefficiency that limited performance was attenuated in the IV condition. The ice vest facilitated heat loss from the periphery; thus, the observed reduction in heart rate may reflect the preservation of central blood volume. The results identify the efficiency of a simple, inexpensive ice vest to assist EOD technicians working in the heat.

Hutchins et al. 2025.

Applied Ergonomics, vol. 122.

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Keywords: Cardiovascular strain; exercise thermoregulation; personal protective clothing; phase change cooling; uncompensable heat stress.

Evidence Level: 5A

Link: <https://www.sciencedirect.com/science/article/pii/S0003687024001650?via%3Dihub>

Clinical patterns and outcomes of hospitalized patients with grinder-related neurovascular injuries: A decade of experience from a Level I Trauma center

Background: Occupational injuries impose a substantial global burden, affecting millions of workers annually, which demands urgent attention to enhance workplace safety and health standards. We aimed to outline the frequency, patterns of injury, and clinical characteristics of patients injured by high-rotation cutting tools (grinders) and to pinpoint the neurovascular (nerves and blood vessels) injuries. **Methods:** A retrospective study was conducted and included all adult patients hospitalized because of grinder-related

injuries at the only level I Trauma Center in the country. The characteristics of patients, mechanism of injury, management and outcomes were analyzed based on the anatomical location of injuries.

Results: 127 patients were hospitalized with grinder-related injuries over ten years. The incidence of GRIs showed an increasing trend over the years. All patients were males with a mean (SD) age of 34.9 (9.8) years. The majority were general laborers (66.1 %), injured by portable grinders (86.6 %), and direct blade contact (64.6 %). The median Injury Severity Score (ISS) was 5.0(IQR 4.0-9.0), and the median Glasgow Coma Scale (GCS) at ED was 15 (3-15). The most frequently injured part was the upper extremity (36.2 %), followed by the lower extremity (33.9 %) and the face (27.6 %). One-third of cases had vascular injuries, and 23.6 % had nerve injuries. Suturing was done for all patients; repairs and debridements were performed in 62 % and 58 % of cases, respectively, and 21 % required vascular surgery. Amputations were required in 9.4 % of cases. Thirty patients had nerve injuries involving the median (11 %) and radial (9.4 %) nerves. Among patients who had neurovascular injuries, 30 % (12/40) experienced complications during the hospital stay, while 60 % (24/40) ended up with physical disabilities. **Conclusion:** Individuals affected by power-tool accidents were predominantly young males, mainly general laborers, with a significant proportion being expatriates. The trend of grinder-related injuries increases over time, with portable grinders being a primary source of injuries due to direct contact with the blade. The anatomical injuries mainly include fractures of the upper and lower extremities. Further studies are warranted to understand the cultural aspects and training requirements of workers handling power tools, aiming to achieve sustainable injury prevention effectively.

Al-Thani et al. 2025.

Injury, vol. 56, no. 1.

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Keywords: Grinder-related injuries; management; neurovascular; outcome; power-tools; risk factors.

Evidence Level: 5B

Link: [https://www.injuryjournal.com/article/S0020-1383\(24\)00643-0/fulltext](https://www.injuryjournal.com/article/S0020-1383(24)00643-0/fulltext)

The association between wet work and hand eczema in the Dutch general population: Application of a job exposure matrix to the lifelines cohort study

Background: Studies on wet work and hand eczema (HE) frequently rely solely on self-reports regarding wet work. **Objectives:** To assess the association between wet work and moderate-to-very-severe HE, within the Dutch general population, by using a (sex-specific) job exposure matrix (JEM). **Methods:** Within the Lifelines Cohort Study, participants with self-reported moderate-to-very-severe HE at worst in the past year were linked to data from the Danish (sex-specific) wet work JEM, a tool that links occupations with wet work indices (including duration and probability of glove use, wet hands and total wet work for at least 2 and 4 h/working day). **Results:** In total, 56 978 (41.9%) participants were included. The multivariate binary logistic regression analyses showed significant associations between all facets of wet work and moderate-to-very-severe HE. When using the sex-specific JEM, significant associations were found in females, but not in males. **Conclusions:** This study is the first to use a wet work-specific JEM in a general population sample, and found positive associations between wet work and HE. The sex-specific findings should be interpreted with caution, due to limitations inherent in using a JEM, and should be further explored with observational studies, with a focus on duration, frequency, and exposure type.

Brands et al. 2025.

Contact Dermatitis, vol. 92, no. 1.

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Keywords: General population; hand dermatitis; hand eczema; job exposure matrix; occupational exposure; wet work; work - related exposure.

Evidence Level: 4B

Link: <https://onlinelibrary.wiley.com/doi/10.1111/cod.14687>

Chronic Health Issues

Work and the veins: A retrospective analysis of work activities in patients with chronic venous disease

Background: This study aimed to investigate the relationship between work activities and chronic venous disease of the lower limbs. **Methods:** Patients referred to our clinical units of Interuniversity Center of Phlebology for chronic venous disease (CVD) assessment between January 2019 and December 2023 were retrospectively enrolled in the study. Inclusion criteria were (a) CVD status confirmed by office visit and Duplex ultrasound, (b) not having any other vascular disease of the lower limbs (such as arterial or lymphatic problems), (c) work activities of at least 1-year duration, in the medical records. **Results:** A total of 948 patients (642 females and 306 males) were retrospectively enrolled. Of these, 613 patients (431 females and 182 males) were affected by CVD and 335 patients (211 females and 124 males) were not affected by CVD and served as controls. Sedentary jobs and jobs where the ambient work temperature ambient is hot have been associated with CVD. Other types of work with no sedentary activities or with a cool ambient work temperature were not associated with CVD. **Conclusions:** Work activity and the occupational environment may be tightly related to the onset and progression of CVD. Forced postures, excessive standing or sitting, and high ambient temperatures can reduce lower limb venous function at work and cause CVD.

Costa et al. 2025.

Annals of Vascular Surgery, vol. 110.

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Keywords: Chronic venous disease; veins.

Evidence Level: 4B

Link: [https://linkinghub.elsevier.com/retrieve/pii/S0890-5096\(24\)00579-X](https://linkinghub.elsevier.com/retrieve/pii/S0890-5096(24)00579-X)

Occupational and hobby exposures associated with Myositis Phenotypes in a National Myositis Patient Registry

Objective: The objective of this study was to investigate occupational and hobby exposures to silica, solvents, and heavy metals and the odds of having the idiopathic inflammatory myopathy (IIM) phenotypes dermatomyositis (DM) and polymyositis (PM) versus inclusion body myositis (IBM), lung disease plus fever or arthritis (LD+), and systemic autoimmune rheumatic disease-associated overlap myositis (OM).

Methods: The sample included 1,390 patients (598 with DM, 409 with PM, and 383 with IBM) aged ≥ 18 years from a national registry. Of these, 218 (16%) were identified with LD+, and 166 (12%) with OM. Of these, 218 (16%) were identified with LD+, and 166 (12%) with OM. We calculated adjusted odds ratios (ORs) and 95% confidence intervals (CIs) and explored joint effects with smoking. **Results:** High silica exposure was associated with increased odds of having DM (OR 2.02, 95% CI 1.18-3.46, compared to no exposure; P trend = 0.004), LD+ (OR 1.75, 95% CI 1.10-2.78, vs no LD; P trend = 0.005), and OM (OR 2.07, 95% CI 1.19-3.61, P trend = 0.020). Moderate to high heavy metals exposure was associated with greater odds of having LD+ (OR 1.49, 95% CI 1.00-2.14, P trend = 0.026) and OM (OR 1.59, 95% CI 0.99-2.55, P trend = 0.051). Greater odds of having LD+ were seen among smokers with moderate to high silica exposure versus nonsmokers with low or no exposure (high-certainty assessment OR 2.53, 95% CI 1.31-4.90, P interaction = 0.061). **Conclusion:** These findings, based on a systematic exposure assessment, suggest that occupational and hobby exposures to silica and heavy metals contribute to adult IIM phenotypes, including DM, OM, and LD+, a possible marker for antisynthetase syndrome or other autoantibody-associated lung diseases.

Parks et al. 2025.

Arthritis Care and Research, vol. 77, no. 1.

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Keywords: Occupational; hobby exposures; myositis.

Evidence Level: 4B

Link: <https://acrjournals.onlinelibrary.wiley.com/doi/10.1002/acr.25461>

The challenges of coeliac disease at work: A contestation of the politics of inclusion

By focusing on the experiences of employees living with coeliac disease as evidenced in UK employment tribunal cases, this paper interrogates the way practices of exclusion are performed in legal and organisational contexts that purport to promote values of inclusion. In paying attention to how differences are constructed and negotiated, the paper unpacks the way organisational practices mobilise an array of workplace mechanisms to produce complex dynamics of exclusion. Applying Laclau and Mouffe's logics of equivalence and difference, we show how questionable impulses and practices emerge in a workplace environment characterised by unclarity and vagueness. One impulse, for example, involves privatising and individualising the condition of employees with coeliac disease, giving rise to patronising and stigmatising attitudes that can turn them into victims. However, we also identify workplace mechanisms countering these tendencies, which can underpin forms of collective support in the struggle for recognition. Our study thus contributes to the body of sociological literature that pays attention to health-related workplace injustices by challenging the purported promotion of health-based inclusion through a focus on tribunal cases, leading to suggestions for further research into the way medical conditions are theorised and 'lived' at work.

Steinhoff et al. 2025.

Sociology of Health and Illness, vol. 47, no. 1.

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Keywords: Coeliac disease; exclusion; inclusion; logics of equivalence; othering.

Evidence Level: 6B

Link: <https://onlinelibrary.wiley.com/doi/10.1111/1467-9566.13826>

Working capacity level defines the specific impairment profile of the comprehensive ICF core set for multiple sclerosis

Multiple sclerosis (MS) unfavorably affects working capacity. The Comprehensive International Classification of Functioning, Disability and Health Core Set for MS (cICF-MS), issued by the World Health Organization, has not yet been extended to evaluate working capacity level (WCL). To evaluate the relative importance of cICF-MS categories in relation to WCL. Persons with MS (PwMS), N = 129, who had been referred to Lithuania's Disability and Working Capacity Assessment Office for WCL determination, were divided into three groups according to the percentage of remaining WCL (WCL1 had 0-25%, WCL2 had 30-40%, and WCL3 had 45-55%). Data regarding the cICF-MS categories were collected through telephone interviews and patient documentation. Using the fractional ranking method, the mean values of cICF-MS impairment were ranked from the most severely affected to the least affected (rank 1-93). Ranks with the 10 highest mean values of impairment severity in each WCL group were included in a descriptive analysis. In the WCL1 and WCL2 groups, the most-affected cICF-MS categories reflected disability related to gait and motor function. The WCL3 group presented with pain, fatigue, and impairments to visual acuity, psychic stability, urination, and memory. This study has identified specific cICF-MS impairment profiles based on remaining WCL.

Valadkevičienė et al. 2025.

Scientific Reports, vol. 15, no. 1.

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Keywords: Comprehensive ICF core set for multiple sclerosis; disability; international classification of functioning, disability and health (ICF); Multiple sclerosis (MS); working capacity level.

Evidence Level: 5B

Link: <https://www.nature.com/articles/s41598-025-87827-6>

Chronic disease risk factors among hospital employees: A cross-sectional study in Türkiye

Introduction: Chronic diseases have become a significant public health problem with the prolongation of human life. There are four main behavioral risk factors for mortality. This study evaluated the significant risk factors for chronic diseases in university hospital employees. **Materials and methods:** The cross-

sectional study population consisted of hospital employees working at Gazi University Hospital for at least one year. The sample size was calculated to be 285, with a 100% response rate. The study's independent variables were age, gender, educational status, working department, and presence of chronic diseases. Dependent variables were smoking, alcohol use, physical inactivity, and body mass index (BMI) categories. Data on participants' characteristics, habits, and behaviors were obtained from the hospital system or with open-ended questions. Their body weight and height were measured. The International Physical Activity Questionnaire (IPAQ) was used to assess physical inactivity. **Results:** The smoking prevalence of hospital employees was 41.8%. Regular alcohol use was 19.3%. Based on the BMI values obtained, 37.9% of the participants were pre-obese, and 18.2% were obese. According to the results of the IPAQ, 13.7% were inactive. The prevalence of smoking was 50.4%, alcohol consume 11.6%, physical inactivity 50.4%, and overweight 65.3% among those who graduated from high school or lower. In contrast, the prevalences were 35.4%, 25.0%, 69.5%, and 49.4%, respectively, among those who graduated from university or higher. A one-unit increase in age of participants without chronic disease increased BMI by 1.06 times ($p < 0.05$). When individuals with a high school education or lower are taken as the reference group, it was found that physical inactivity is 1.78 times higher among those with a university degree or higher ($p < 0.05$). **Conclusion:** The effect of education level on health habits and behaviors should be considered in terms of the target group and content of preventive health programs and awareness-raising studies.

Medeni et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Chronic disease; hospital employees.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0302910>

Sick leave and homecare need in patients with transient ischaemic attack compared with ischaemic stroke: A nationwide follow-up study

Background and purpose: Emerging evidence indicates lasting impairments in patients with transient ischaemic attack (TIA), which may be unexpected as symptoms per definition recover within 24 h. How these impairments impact return to work or the ability to maintain independence is unknown. The aim of our study was to investigate the need of sick leave or homecare following TIA compared with acute ischaemic stroke (AIS). **Materials and methods:** Patients registered with TIA in the Danish Stroke Registry from 2014 to 2021 were included. Information on sick leave benefits and use of homecare was obtained from national registries. The cumulative risk of sick leave or homecare was calculated and compared with AIS. A hazard rate ratio (HRR) for return to work was calculated. **Results:** In total, 29,261 TIA and 64,295 AIS events were included. For TIA, 6770 patients paid labour market contribution before TIA, of which 1240 patients (18.3%) received sick leave benefits after 5-12 weeks. For AIS 48.1% (5940 of 12,340) received sick leave benefits. The HRR for return to work was 2.37 (95% confidence interval 2.13-2.64). For patients aged 65-79, a total of 15.4% TIA (175 of 1136) and 30.6% AIS (1443 of 4716) started to receive homecare at 3 months. The HRR was 0.55 (95% confidence interval 0.49-0.62). **Conclusion:** Despite the transient event almost one out of five working patients with TIA receive sick leave benefits 5-12 weeks after. Initiation of homecare was required in nearly one out of six patients with TIA aged 65-79 years.

Ebbesen et al. 2025.

European Journal of Neurology, vol. 32, no. 1.

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Keywords: TIA; homecare; return to work; sick leave benefits; transient ischaemic attack.

Evidence Level: 4B

Link: <https://onlinelibrary.wiley.com/doi/10.1111/ene.16552>

Relation between work hours, work control, work stress, and quality of life in persons with spinal cord injury

Background: Work participation is related to a better quality of life (QoL) for people with spinal cord injury (SCI), however, the specific work characteristics that are related to QoL in people with SCI are largely unknown. **Objectives:** To investigate which work characteristics are related to QoL in people with SCI.

Methods: Cross-sectional survey of people with SCI in the Netherlands. The survey consisted of demographic, SCI-related, and work-related items. Work control was measured with the short Job Content Questionnaire and work stress with the effort-reward imbalance (ERI). People of working age with at least 1 h of paid work per week were included. Hierarchical regression analysis was performed to examine the contribution of work characteristics to QoL while controlling for potential clinical and demographic confounders. **Results:** The study included 169 persons with SCI (74.6 % male, 47.8 ± 9.3 years, time since injury 18.9 ± 11.1 years). The final hierarchical regression model explained 31 % of the variance in QoL. The number of SCI-related health complications contributed the strongest to QoL ($\beta = -.36$), followed by work hours ($\beta = .24$), and work stress ($\beta = .24$). However, work control did not contribute significantly to QoL in our final model. **Conclusion:** Work hours and work stress contributed to QoL in people with SCI, but the number of SCI-related health complications was the strongest contributor. Future research and vocational rehabilitation should be directed to both medical and work-related variables to enhance the QoL of working people with SCI.

van Dinter et al. 2025.

Disability and Health Journal, vol. 18, no. 1.

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Keywords: Employment; rehabilitation; spinal cord disorder; work effort; work reward.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S1936657424001213?via%3Dihub>

The effect of consuming a sucrose-containing sports drink on acute kidney injury risk during a 4 h simulated occupational heat stress

Occupational heat stress increases acute kidney injury risk. Drinking a soft drink sweetened with high fructose corn syrup further elevates this acute kidney injury risk. However, the impact of sucrose, another fructose-containing sweetener, on acute kidney injury risk remains unexplored. We tested the hypothesis that drinking a sucrose-containing sports drink increases acute kidney injury risk when compared to drinking a sugar-free sports drink during 4 h of simulated occupational heat stress. Ten healthy adults consumed a sucrose-containing or sugar-free sport drink ad libitum during 4 h exposures to wet bulb globe temperatures of ~ 28 °C. Thirty min of work and 30 min of rest were completed each hour. Work involved treadmill walking at a fixed rate of metabolic heat production (sucrose-containing: 6.0 ± 1.2 W/kg, sugar-free: 5.5 ± 0.9 W/kg, $p = 0.267$). The product of urinary insulin-like growth factor-binding protein 7 and tissue inhibitor of metalloproteinase-2, normalized to urine specific gravity ([IGFBP7·TIMP-2]USG), provided an acute kidney injury risk index. Mean core (intestinal: $n = 13$, rectal: $n = 7$) temperature (sucrose-containing: 37.5 ± 0.1 °C, sugar-free: 37.5 ± 0.3 °C; $p = 0.914$), peak core temperature (sucrose-containing: 37.8 ± 0.2 °C, sugar-free: 37.9 ± 0.3 °C; $p = 0.398$), and percent changes in body mass (sucrose-containing: $-0.5 \pm 0.4\%$, sugar-free: $-0.3 \pm 0.6\%$; $p = 0.386$) did not differ between groups. [IGFBP7·TIMP-2]USG increased in both groups (time effect: $p = 0.025$) with no drink ($p = 0.675$) or interaction ($p = 0.715$) effects. Peak change [IGFBP7·TIMP-2]USG did not differ between sucrose-containing (median 0.0116 [-0.0012, 0.1760] (ng/mL)²/1000) and sugar-free (median 0.0021 [0.0003, 0.2077] (ng/mL)²/1000; $p = 0.796$). Sucrose-containing sports drink consumption during simulated occupational heat stress does not modify acute kidney injury risk when compared to sugar free-sport drink consumption.

Lignier et al. 2025.

Applied Physiology, Nutrition, and Metabolism, vol. 50.

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Keywords: AKI; dehydration; fructose; hyperthermia; polyol-fructokinase; sucrose.

Evidence Level:

Link:

<https://www.sciencedirect.com/org/science/article/pii/S1715531224001285#:~:text=Conclusion,a%20sugar%2Dfree%20sport%20drink>.

Psychological distress in patients with asbestos-related diseases and their families: A systematic literature review

Background: Exposure to asbestos in the workplace is currently recognized as one of the leading causes of work-related deaths, with more than half of deaths attributable to cancer. **Aims:** The aim of this systematic literature review was to investigate the mental health and psychological distress of patients affected by asbestos-related diseases and their caregivers. **Methods:** The review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The studies were identified in October 2023 by searching four electronic databases: Scopus, Web of Science, PubMed and PsycInfo/PsycArticles. Risk of bias was assessed using the JBI checklist. **Results:** Fourteen articles were identified. The studies focused exclusively on the psychological distress of patients with malignant mesothelioma (MM) and their caregivers. MM appears to have traumatic effects on both patients and caregivers, who may experience anxiety and depression, an impoverished emotional life, somatization, social withdrawal, and a deterioration in their quality of life. In addition, a need for information about MM, its progression and associated care tasks was identified, and patients and caregivers reported frequently seeking information from online sources. **Conclusions:** Our review has shown that there are still few studies addressing psychological distress in MM patients and their caregivers, and none addressing distress in the context of other asbestos-related diseases. The somatopsychic consequences of MM in patients and caregivers should encourage institutions and health professionals to develop assessment and intervention models that are tailored to the specific suffering and needs of MM patients and their caregivers and promote their residual vitality.

Franzoi et al. 2025.

Psycho-Oncology, vol. 34, no. 1.

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Keywords: Asbestos; cancer; caregiver; distress; mental health; mesothelioma; oncology; quality of life.

Evidence Level: 1A

Link: <https://onlinelibrary.wiley.com/doi/10.1002/pon.70051>

Occupational Exposure**Systematic review of impacts of occupational exposure to wildfire smoke on respiratory function, symptoms, measures and diseases**

Background: Wildfire smoke contains numerous hazardous air pollutants which pose serious health risks to humans. Despite this, there has been a limited focus on the assessment of the acute physiological and longer-term respiratory effects of wildfire exposure on firefighters and other emergency workers. Therefore, we undertook a systematic review of the evidence about the respiratory impacts of occupational wildfire smoke exposure among wildfire fighters (WFF). **Methods:** Eligible studies from Medline, Embase and Scopus databases were included if they described the relationship between wildfire exposure and respiratory function, symptoms, measures and diseases amongst emergency personnel or firefighters who had responded to wildfires. **Results:** Twenty-six articles met the inclusion criteria. 24 out of 26 (22 out of 23 moderate/high quality) studies provided evidence of adverse respiratory effects, including reduced lung function, increased airway dysfunction and airway inflammation, upper and lower respiratory tract symptoms and increased asthma incidence related to wildfires or prescribed burns exposure among WFF and police responders. Fourteen out of 19 studies showed statistically significant declines in spirometry measures of lung function (mostly short-term studies). Two studies using complex lung function tests showed a significant effect on peripheral airway function. **Discussion:** This review found a convincing body of evidence that occupational exposure to wildfires or prescribed burns has both acute and possibly longer-term respiratory effects among WFFs and some other emergency personnel. Given that these events are increasing, more needs to be done to identify those most at risk and mitigate these risks.

Wah et al. 2025.

International Journal of Hygiene and Environmental Health, vol. 263.

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Keywords: Bushfire; firefighters; occupational exposure; respiratory; systematic review; wildfire.

Evidence Level: 1A

Link: <https://www.sciencedirect.com/science/article/pii/S1438463924001445?via%3Dihub>

Association of dust exposure with anxiety and depression in the occupational population: The important role of sleep duration

Background: Mental health issues, particularly anxiety and depression, are increasingly prevalent among the occupational population. Environmental factors, such as dust exposure, may contribute to the worsening of these symptoms. While previous studies have examined the association between dust exposure and mental health, the moderating effect of sleep duration on this link in occupational settings remains under-explored. **Methods:** This study was conducted from July to October 2023 at The Fifth People's Hospital of Ningxia and recruited dust-exposed occupational workers from different coal enterprises. After a series of screening 1274 valid subjects were finally included. Binary logistic regression was used to explore the association of dust exposure with anxiety and depression. Generalized additive models (GAM) were constructed to explore the nonlinear relationships between dust exposure duration, sleep duration, and mental health outcomes. Mediating variable contributions were isolated using the Karlson-Holm-Breen (KHB) method and mediated effects models were fitted. **Results:** The prevalence of anxiety and depression was found to be 6.44% and 4.24%, respectively. Dust exposure duration was positively associated with both anxiety and depression, while stratification by monthly income level had no significant effect. The contribution of sleep duration to the indirect effect accounted for 21.76% and 43.54% of the total effect of dust exposure duration on anxiety and depression scores, respectively. A nonlinear relationship was observed between dust exposure duration, sleep duration, and the scores of anxiety and depression. In the mediation analysis, shorter sleep duration explained 12.87% of the association between dust exposure duration and anxiety scores. **Conclusions:** Dust exposure duration was associated with anxiety and depression, with a nonlinear relationship between them. Changes in sleep duration may effectively influence mental health problems in occupationally dust-exposed populations.

Shen et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Anxiety; depression; dust exposure; mediating effect; sleep duration.

Evidence Level: 4B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21520-1>

Laboratory-acquired infection in clinical laboratories and the incidence rate after Brucella exposure risk events: A systematic review and meta-analysis

Background: Personnel in clinical microbiology laboratories face heightened risks of occupational infections, due to the potential for pathogenicity in clinical samples. **Aim:** To summarize the characteristics of laboratory-acquired infections (LAIs) and review exposure incidents in clinical laboratories, and to conduct a meta-analysis to estimate post-exposure incidence rates and evaluate the efficacy of post-exposure prophylaxis (PEP) following Brucella exposures. **Methods:** A systematic search across PubMed, Embase, Web of Science, CNKI, Wanfang, CMB, and the ABSA LAI database extracted relevant literature published from January 1st, 1990, to August 31st, 2023, including case reports and laboratory exposure risk events. Negative-binomial regression was used to estimate the relative increase in reported numbers per year of LAIs. Meta-analysis was performed to estimate the incidence rate (IR) of LAIs among exposed laboratory personnel after Brucella exposure risk events. **Findings:** A total of 164 LAIs were reported in hospital laboratories. Negative-binomial regression analysis indicated no significant decline in annual LAIs reports (relative risk and 95% CI: 0.98 (0.97, 1.00); P = 0.052). The leading pathogens were Brucella spp. (55.5%), Neisseria meningitidis (7.3%), and Shigella sonnei (5.5%). The meta-analysis revealed that the

incidence rate for Brucella-related LAIs among laboratory personnel was 60 per 100,000 laboratory personnel. Laboratory personnel exposed to high-risk Brucella incidents faced a notably elevated infection risk, estimated at 80 per 100,000 laboratory personnel. Compared with high-risk Brucella exposures with PEP, high-risk Brucella exposures without PEP had a 6.33-fold increase in the risk of Brucella infection.

Conclusions: Clinical laboratory personnel remain at infection risk, with no reduction in reported LAI cases, mainly resulting from Brucella acquisitions. PEP was shown to be effective against high-risk Brucella exposures.

Wang et al. 2025.

Journal of Hospital Infection, vol. 155.

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Keywords: Incidence; laboratory-acquired infection; meta-analysis; post-exposure prophylaxis.

Evidence Level: 1A

Link: [https://www.journalofhospitalinfection.com/article/S0195-6701\(24\)00337-2/fulltext](https://www.journalofhospitalinfection.com/article/S0195-6701(24)00337-2/fulltext)

Developing a framework for industrial noise risk management based on noise kurtosis and its adjustment

Objectives: Noise risk control or management based on noise level has been documented, but noise risk management based on a combination of noise level and noise's temporal structure is rarely reported. This study aimed to develop a framework for industrial noise risk management based on noise kurtosis (reflecting noise's temporal structure) and its adjustment for the noise level. **Design:** A total of 2805 Chinese manufacturing workers were investigated using a cross-sectional survey. The noise exposure data of each subject included L EX,8h , cumulative noise exposure (CNE), kurtosis, and kurtosis-adjusted L EX,8h (L EX,8h -K). Noise-induced permanent threshold shifts were estimated at 3, 4, and 6 kHz frequencies (NIPTS 346) and 1, 2, 3, and 4 kHz frequencies (NIPTS 1234). The prevalence of high-frequency noise-induced hearing loss prevalence (HFNIHL%) and noise-induced hearing impairment (NIHI%) were determined. Risk 346 or Risk 1234 was predicted using the ISO 1999 or NIOSH 1998 model. A noise risk management framework based on kurtosis and its adjustment was developed. **Results:** Kurtosis could identify the noise type; Kurtosis combining noise levels could identify the homogeneous noise exposure group (HNEG) among workers. Noise kurtosis was a risk factor of HFNIHL or NIHI with an adjusted odds ratio of 1.57 or 1.52 ($p < 0.01$). At a similar CNE level, the NIPTS 346 , HFNIHL%, NIPTS 1234 , or NIHI% increased with increasing kurtosis. A nonlinear regression equation (expressed by logistic function) could rebuild a reliable dose-effect relationship between L EX,8h -K and NIPTS 346 at the 70 to 95 dB(A) noise level range. After the kurtosis adjustment, the median L EX,8h was increased by 5.45 dB(A); the predicted Risk 346 and Risk 1234 were increased by 11.2 and 9.5%, respectively; NIPTS 346 -K of complex noise at exposure level <80, 80 to 85, and 85 to 90 dB(A), determined from the nonlinear regression equation, was almost the same as the Gaussian noise. Risk management measures could be recommended based on the exposure risk rating or the kurtosis-adjusted action levels (e.g., the lower and upper action levels were 80 and 85 dB(A), respectively). **Conclusions:** The kurtosis and its adjustment for noise levels can be used to develop an occupational health risk management framework for industrial noise. More human studies are needed to verify the risk management framework.

Zhang et al. 2025.

Ear and Hearing, vol. 46, no. 1.

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Keywords: Industrial noise; hearing; noise kurtosis; hearing loss.

Evidence Level: 4B

Link: https://journals.lww.com/ear-hearing/fulltext/2025/01000/developing_a_framework_for_industrial_noise_risk.19.aspx

Introducing the OECD guidance document on occupational biomonitoring: A harmonized methodology for deriving occupational biomonitoring levels (OBL)

Derivation of occupational biomonitoring levels (OBLs) is needed to effectively utilize biomonitoring for assessing exposures to chemical substances, and consequently, implement risk reduction measures to reduce health risks among workers. OBLs are the appropriate option for chemical substances that can be absorbed through the skin. This methodology for derivation of OBLs has been developed in collaboration with scientific and regulatory experts from more than 40 institutes in 15 countries within the Organization for Economic Cooperation and Development (OECD) framework. This manuscript provides a summary of the guidance on derivation of OBLs destined for scientists, risk assessors, and regulators who are tasked with establishing OBLs for regulatory purposes and implementing occupational biomonitoring programs. The derivation methodology follows a tiered approach based on the strength of evidence and quality of the data that we have labeled level of confidence. The tiered approach serves as a practical framework in occupational health risk assessment and management. We distinguish between four OBL levels depending on the strength of scientific evidence and confidence level: health-based derivation of OBL based on robust epidemiological data showing causal exposure-health effect relationship and Provisional OBL (POBL) based on robust toxicological animal data showing dose-response relationship as well as two assessment values which are not health based: reference levels in the general population (Reference OBL or (ROBL)), and Technical achievable OBL or (TOBL). Four case studies illustrating the derivation methods for OBLs and POBLs are also provided. Using this state-of-the-art approach (OECD guidance document no. 370) will lead to a harmonized derivation of OBLs and subsequently to evidence-based risk management measures.

Hopf et al. 2025.

Toxicology Letters, vol. 403.

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Keywords: Biomonitoring; harmonized methodology; human; OECD; occupational exposure assessment; occupational biomonitoring levels.

Evidence Level: 6A

Link: <https://www.sciencedirect.com/science/article/pii/S0378427424020745?via%3Dihub>

Update on occupational dermatitis: Reviewing toxic substances from OSHA standards

Occupational dermatitis (OD) is an inflammatory skin disease stemming from exposure to specific substances within a work setting. As the second most prevalent occupational health concern in 2020, affecting 1.8 per 10,000 workers, OD poses a significant challenge to workforce well-being and imposes a substantial economic burden through lost wages, decreased productivity, and increased healthcare spending. Dermatologists emerge as pivotal figures in recognizing risk factors and delivering essential care to individuals with OD. This review focuses on chemical hazards and toxic substances regulated by the Occupational Safety and Health Administration across general industry, maritime, and construction sectors. It explores the background of each hazard, pathophysiology to dermatitis, and human cases reported between 2017 and 2023 for formaldehyde, chromium, vinyl chloride, and cadmium.

Lee et al. 2025.

International Journal of Dermatology, vol. 64, no. 1.

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Keywords: Cadmium; chromium; formaldehyde; health policy; inflammatory diseases; occupational dermatitis; vinyl chloride.

Evidence Level: 6A

Link: <https://onlinelibrary.wiley.com/doi/10.1111/ijd.17413>

Measurements of dust and respirable crystalline silica during indoor demolition and renovation

Increased focus on renovating and maintaining the existing building stock is an integral part of the circular economy, however this might pose challenges to workers health. The aim of this study was to assess the renovation workers' exposure to inhalable dust, thoracic dust, respirable dust, and respirable crystalline

silica (RCS). Personal aerosol samples were collected as full shift samples from 92 workers to a total of 407 samples. Fourteen locations around Oslo, Norway was visited for multiple days with repeated measurements of the same individual. Particulate matter from 3 aerosol fractions, respirable, thoracic, and inhalable, were analyzed gravimetrically, and the respirable fraction was analyzed for RCS by NIOSH 7500 method for X-ray diffraction (XRD) with low temperature plasma ashing sample preparation. The total measured concentrations of respirable dust (n = 192) had a geometric mean (GM) of 0.88 mg/m³, RCS concentrations (n = 182) had a GM of 0.040 mg/m³, thoracic dust (n = 131) had GM 2.4 mg/m³, and inhalable dust (n = 84) had a GM of 8.5 mg/m³. The maximum measured concentrations were 29 mg/m³, 3.2 mg/m³, 65 mg/m³, and 163 mg/m³, respectively. Workdays involving tasks such as mechanical demolition and clearing out demolished materials led to the highest exposure levels of both dust and RCS. However, other workers at the renovation sites were indirectly exposed to a considerable amount of RCS. This study revealed substantial exposure to both RCS and dust during renovation, and protective measures are warranted to reduce exposure levels in the industry.

Halvorsen et al. 2025.

Annals of Work Exposures and Health, vol. 69, no. 1.

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(<https://creativecommons.org/licenses/by-nc/4.0/>)

Keywords: Construction industry; exposure assesment; particulate matter; quartz; respirable dust; respirable silica.

Evidence Level: 4B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11706796/>

A narrative review of occupational solar ultraviolet radiation in Britain and skin cancer

Background: Occupational exposure to solar ultraviolet (UV) is known to cause malignant melanoma (MM) and non-melanoma skin cancer (NMSC). However, knowledge of the causal associations has developed erratically. **Aims:** This review aims to identify when it was accepted that workplace solar UV exposure could cause skin cancer and when it was recognized that there was a risk for outdoor workers in Britain, identifying the steps employers should have taken to protect their workers. **Methods:** Informative reviews, published since 1974, were located through a systematic literature search. These were used to chart changes in summative knowledge of the role of occupational solar UV exposure in causing skin cancer. An assessment was made of the identified hazards of skin cancer and the recognition of risks for outdoor workers in Britain. **Results:** From at least 1975, it has been accepted that occupational solar UV exposure could cause squamous cell carcinoma, and from around 2011 for MM and basal cell carcinoma. From 2004, repeated sunburn at work was identified as a likely cause of MM. From 1999, it was accepted that occupational solar UV exposure causes NMSC amongst British workers, and from 2012 there was limited evidence for an MM risk for outdoor workers in northern European countries. **Conclusions:** Skin cancer risks for British outdoor workers should be actively managed and they should have health surveillance. Outdoor workers who have skin cancer should be eligible for compensation.

Cherrie 2025.

Occupational Medicine, vol. 74, no. 9.

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Keywords: Occupational solar ultraviolet radiation; skin cancer; malignant melanoma.

Evidence Level: 6B

Link: <https://academic.oup.com/occmed/article/74/9/654/7958931?login=false>

Analysis of the climate impact on occupational health and safety using heat stress indexes

Workers may be exposed to conditions that put their physical and mental integrity at risk, from workplace settings to climate characteristics. Heat stress is a harmful health condition caused by exceeding the human body's tolerance limits, leading to illness and increasing the chance of work accidents. Heat stress indexes, such as the Humidex and the Heat Index (HI), are used to measure these impacts. These indexes are significant as they provide a quantitative measure of the heat stress experienced by workers, taking into

account both environmental and individual factors. **Objective:** This study aims to compare multiple heat stress indexes, relating them to historical Brazilian occupational accident data. **Methods:** We selected eight indexes and applied multiple correspondence analysis to each one, a statistical method that generates graphs to visualize the association between variables in a database. **Results:** The analysis and comparison of the graphs indicated that seven of the eight indexes presented similar behavior. It was also possible to relate ranges of index values with specific characteristics of the accidents. **Conclusions:** The technique allowed us to analyze the relationship between climate and work accidents and showed that the choice of the heat stress index does not significantly alter the results for most indexes studied.

Ferrari et al. 2025.

International Journal of Environmental Research and Public Health, vol. 22, no. 1.

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Keywords: Heat stress; heat stress index; multiple correspondence analysis; occupational health and safety.

Evidence Level: 4B

Link: <https://www.mdpi.com/1660-4601/22/1/130>

Effectiveness of a multifaceted intervention (TEMP) for prevention of occupational heat-related illness among outdoor workers in the power grid industry: A cluster randomized controlled trial

Background: Occupational heat-related illness (OHI) is a health threat to workers that can be fatal in severe cases. Effective and feasible measures are urgently needed to prevent OHI. **Objectives:** We evaluated the effectiveness of a multifaceted intervention, TEMP, in reducing the OHI risk among outdoor workers in the power grid industry. **Methods:** A cluster randomized controlled trial was conducted with power grid outdoor workers in Southern China from 4 July 2022 to 28 August 2022. Work groups were randomly allocated (1:1) to the intervention or control groups. The multifaceted intervention TEMP comprised mobile application (app)-based education training (T), personal protective equipment [PPE (E)], OHI risk monitoring (M), and educational posters (P). Four follow-ups were conducted every 2 wk after the trial began. The primary outcome was the OHI incidence, and the secondary outcome was PPE usage. The app usage was considered as the compliance of intervention in the intervention group. The primary analysis used was intention-to-treat analysis. Multilevel analyses using random effects logistic regression models were performed to compare the odds of OHI between the two groups, adjusted for individual-level (education and work position) and work-related (including water intake when feeling thirsty, cooling measures, and poor sleep before work) covariates. **Results:** Of 528 participants, 422 (79.92%) were males, and the mean±SDmean±SD age was 36.36±8.1836.36±8.18 y. The primary outcome, OHI incidence, was 1.80% in the intervention group and 4.82% in the control group at the end of the whole follow-up. OHI mainly occurred between 1100 and 1500 hours, with nausea, significantly increased heart rate, and oliguria being the top three reported OHI symptoms. Compared with the control group, the adjusted odds ratios between the intervention group and control group were 0.73 [95% confidence interval (CI): 0.30, 1.76] in the first follow-up wave, with 0.38 (95% CI: 0.15, 0.97), 0.29 (95% CI: 0.08, 1.05), and 0.39 (95% CI: 0.13, 1.19) in the following three follow-up waves, respectively. The intervention also significantly improved PPE usage in the intervention group. **Discussions:** This multifaceted intervention reduced the OHI risk among outdoor workers in the power grid industry. However, further research is needed to design a more flexible intervention strategy and evaluate its effectiveness in a larger population.

<https://doi.org/10.1289/EHP14172>.

Ding et al. 2025.

Environmental Health Perspectives, vol. 133, no. 1.

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Keywords: Occupational heat-related illness; outdoor; power grid industry.

Evidence Level: 2B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11708633/>

Physical Activity

The Physical Activity at Work (PAW) Program in Thai Office Workers: Mixed methods process evaluation study

Background: An increasing number of multicomponent workplace interventions are being developed to reduce sedentary time and promote physical activity among office workers. The Physical Activity at Work (PAW) trial was one of these interventions, but it yielded an inconclusive effect on sedentary time after 6 months, with a low uptake of movement breaks, the main intervention component. **Objective:** This study investigates the factors contributing to the outcomes of the PAW cluster randomized trial. **Methods:** Following the Medical Research Council's guidance for process evaluation of complex interventions, we used a mixed methods study design to evaluate the PAW study's recruitment and context (how job nature and cluster recruitment affected movement break participation), implementation (dose and fidelity), and mechanisms of impact (assessing how intervention components affected movement break participation and identifying the facilitators and barriers to participation in the movement breaks). Data from accelerometers, pedometers, questionnaires, on-site monitoring, and focus group discussions were used for the evaluation. Linear mixed effects models were used to analyze the effects of different intervention components on the movement breaks. Subsequently, qualitative analysis of the focus group discussions provided additional insights into the relationship between the intervention components. **Results:** The participation in movement breaks declined after the third week, averaging 12.7 sessions (SD 4.94) per participant per week for the first 3 weeks, and continuing to decrease throughout the intervention. On-site monitoring confirmed high implementation fidelity. Analysis of Fitbit data revealed that each additional movement break was associated with a reduction of 6.20 (95% CI 6.99-5.41) minutes in sedentary time and an increase of 245 (95% CI 222-267) steps. Regarding the mechanisms of impact, clusters with higher baseline sedentary time demonstrated greater participation in movement breaks, while those with frequent out-of-office duties showed minimal engagement. Moreover, clusters with enthusiastic and encouraging movement break leaders were associated with a 24.1% (95% CI 8.88%-39.4%) increase in participation. Environmental and organizational support components using posters and leaders' messages were ineffective, showing no significant change in percentage participation in movement breaks (4.49%, 95% CI -0.49% to 9.47% and 1.82%, 95% CI -2.25% to 5.9%, respectively). Barriers such as high workloads and meetings further hindered participation, while the facilitators included participants' motivation to feel active and the perceived health benefits from movement breaks. **Conclusions:** Despite high fidelity, the PAW trial did not significantly reduce sedentary time, with limited uptake of movement breaks due to context-related challenges, ineffective environmental support, and high workloads during the COVID-19 pandemic.

Akksilp et al. 2025.

JMIR Formative Research, vol. 9.

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Keywords: Movement breaks; physical activity; process evaluation; sedentary behavior; workplace.

Evidence Level: 5B

Link: <https://formative.jmir.org/2025/1/e57604>

Conceptual and evidence update on incidental physical activity: A scoping review of experimental and observational studies

Promoting incidental physical activity (IPA) can help reduce sedentary lifestyles and physical inactivity levels in the population. However, there is heterogeneity in the definition of IPA, and studies have yet to synthesize the empirical findings on this topic. This review aimed to (1) Synthesize the definitions of the IPA used in the scientific literature, (2) Identify the behaviors part of the IPA, and (3) Synthesize the main findings on IPA. The review followed PRISMA guidelines. A systematic search was performed in July 2023, and an update was made in February 2024 in the CINAHL databases by EBSCOhost, Cochrane Library, Pubmed, ScienceDirect, Scopus, and Web of Science. The search phrase was ("incidental physical activity" OR "incidental physical activity of daily living" OR "incidental movement" OR "vigorous intermittent lifestyle physical activity" OR "VILPA" OR "physical activity of daily living"). Fifty-five studies were included, with

non-experimental (40), experimental (12), qualitative studies (2), and mixed design (1). Ten different terms for IPA were identified, and a conceptual definition was included in 33 articles. Behaviors measured as part of the IPA were reported in 41 articles. These definitions describe unstructured, unplanned, and unintentional physical activities of daily living that are performed as a by-product of an activity with a different primary purpose during free or occupational time and without specific fitness, sport, or recreation goals. Include light and vigorous intensities ranging from short sessions of < 1 min to prolonged ones. They include home activities, self-care, gardening, occupation, active transportation, and walking. Furthermore, evidence on IPA suggests an association with a lower risk of all-cause mortality. The findings of this review contribute to the updated study of IPA. Advances in data processing methods are needed to capture the diversity of behaviors and deepen the understanding of IPA.

Reyes-Molina et al. 2025.

Scandinavian Journal of Medicine and Science in Sports, vol. 35, no. 1.

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Keywords: Behavior; definition; incidental physical activity; scope review.

Evidence Level: 1B

Link: <https://onlinelibrary.wiley.com/doi/10.1111/sms.70015>

Occupational physical activity and cardiovascular disease mortality in the United States, 1988-2019

Background: Although leisure time physical activity (LTPA) is a beneficial factor for cardiovascular disease (CVD) mortality, relationships between occupational physical activity (OPA) and CVD mortality are inconclusive. We aimed to examine prospective associations of OPA with CVD mortality using a large representative sample of adult workers in the United States (US), and explore how socioeconomic status (SES) may influence these associations. **Methods:** This cohort study included US workers (≥ 18 years) participating in the 1988 National Health Interview Survey (NHIS) and passively followed until December 31, 2019. Time (minutes/week) on strenuous OPA (e.g., lifting, pushing, or pulling heavy objects) was assessed at baseline by a questionnaire and categorized into 4 groups [i.e., none, low, medium, and high]. CVD mortality was identified by International Classification of Diseases, Tenth Version (ICD-10) and collected by the National Death Index database. We examined the association of OPA with CVD mortality using multivariable Cox proportional hazard regressions, controlling for age, sex, race/ethnicity, marital status, education, annual household income, occupation type, and pre-existing cardiometabolic disorders. **Results:** In 28,604 participants (46.2% women; mean age 37.86 years), adjusted hazard ratios (95% CIs) of none, low, medium, and high OPA groups were 1.39 (1.01-1.91), 1.00 (reference), 1.18 (0.83-1.66) and 1.58 (1.12-2.22) for CVD mortality. The associations were stronger in workers with low education level (i.e., high school or less) [estimates of none, low, medium, and high OPA groups were 1.74 (1.09-2.78, $P = 0.02$), 1.00, 1.49 (0.92-2.42), and 1.87 (1.16-3.00)] or annual household income $< \$30,000$ [estimates of OPA groups were 1.73 (1.16-2.56), 1.00, 1.29 (0.83-2.01), and 1.73 (1.14-2.65)]. **Conclusions:** We observed that workers with either high or no strenuous OPA had higher CVD mortality compared to those with low strenuous OPA, demonstrating a U-shaped association in the US. This association was particularly pronounced among workers with lower SES.

Xia et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Cardiovascular disease; cohort study; mortality; occupational physical activity.

Evidence Level: 4B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-21225-x>

Musculoskeletal Health

Workplace-based prevention and management of knee pain: A systematic review

Objective: Knee pain is highly prevalent and disabling among the general and working population. This systematic review explored the effectiveness of workplace-based interventions on knee pain among workers. **Methods:** A PICO-guided systematic search was performed in PubMed and Web of Science Core Collection for articles published from 2003 until January 2023. Eligible articles included randomized and non-randomized controlled trials assessing the effect of workplace-based interventions on knee pain among currently employed adult workers. The quality assessment and evidence synthesis adhered to the systematic review approach, which the Institute for Work & Health developed, and was focused on developing practical recommendations for stakeholders. **Results:** Of the 13 identified studies, 11 medium- and high-quality studies were entered into the evidence synthesis. Importantly, none of the included studies specifically aimed at reducing of knee pain. Still, among the included studies, a strong level of evidence suggested no benefit of workplace-based physical exercise/activity intervention on knee pain. The level of evidence was deemed too uncertain to guide current policy/practices for ergonomic and multifaceted interventions. No intervention types were associated with negative effects on knee pain. **Conclusions:** The current evidence-base pertaining to workplace-based prevention and management of knee pain is insufficient to guide effective preventive workplace practice or policy development. Considering the global prevalence and health impact of knee pain, development and implementation of effective workplace interventions aimed at prevention and management of knee pain is needed.

Skovlund et al. 2025.

Scandinavian Journal of Work, Environment and Health, vol. 51, no. 1.

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Keywords: Knee pain; prevention; workplace.

Evidence Level: 1A

Link: <https://www.sjweh.fi/article/4195>

Ergonomic challenges and musculoskeletal pain during remote working: A study of academic staff at a selected university in South Africa during the COVID-19 pandemic

The COVID-19 pandemic led to a rapid shift to remote working, which affected ergonomic conditions and increased the risk of upper body musculoskeletal pain (MSP). This study assessed the prevalence and impact of upper body MSP (affecting the head, neck, shoulders, and back) among academic staff at a University of Technology during the pandemic. Data were collected from 110 participants through an online, descriptive, cross-sectional survey adapted from the Dutch Musculoskeletal Questionnaire, the Standardized Nordic Questionnaire, and the McCaffrey Initial Pain Assessment Tool. The survey examined demographics, ergonomic practices, MSP, and psychological well-being before and during the pandemic. The sample included 59.1% female participants, with most being middle-aged. Persistent MSP was common, with 54.5% reporting neck pain and 59.1% experiencing back pain during the pandemic, alongside a significant decline in wrists in neutral position ergonomics ($p = 0.012$). Psychological well-being also worsened, as participants reported lower levels of cheerfulness, calmness, and energy than before the pandemic. While 81.9% of 90.9% participants with pre-existing MSP continued to experience pain, a small (9%) but notable proportion saw a decline in MSP during this period. These findings highlight a strong relationship between remote working conditions and MSP, with poor ergonomics and psychological distress contributing significantly to persistent pain. The results emphasise the need for institutions to provide ergonomic support, such as appropriate equipment and workstation adjustments, alongside mental health resources to mitigate the long-term impacts of remote working on physical and mental health.

Narainsamy et al. 2025.

International Journal of Environmental Research and Public Health, vol. 22, no. 1.

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Keywords: COVID-19 pandemic; academic staff; ergonomics; musculoskeletal pain (MSP); remote working.

Evidence Level: 4B

Link: <https://www.mdpi.com/1660-4601/22/1/79>

Prevalence, predisposing factors, and turnover intention related to low back pain among health workers in Accra, Ghana

Background: Globally, low back pain (LBP) is responsible for disability among 60.1 million people. Health workers face a higher likelihood of being exposed to LBP compared to employees in the construction and manufacturing sectors. Data on LBP among hospital workers in Ghana are however limited. This study examined the prevalence, predisposing factors and turnover intention related to LBP among health workers in the Greater Accra region of Ghana. **Methods:** A multi-centred facility-based cross-sectional study was conducted in the Greater Accra region from January 30 -May 31, 2023. A multi-stage sampling technique was adopted, and the study participants were selected through proportion-to-size simple random sampling. STATA 15 software was used for analysis. Logistic regression analysis was used to determine the factors associated with LBP at a $p < 0.05$. **Results:** A survey was conducted among 607 health workers in 10 public and private hospitals. The prevalence of LBP was 81.6% [95% CI: (78.2%-84.6%)]. Advanced age [AOR = 1.07 (1.00, 1.16)], working for more than 5 days in a week [AOR = 8.14 (2.65, 25.02)], working overtime [AOR = 2.00 (1.16, 3.46)], rarely involved in transferring patients [AOR = 3.22 (1.08, 9.60)], most of the time involved in transferring patients [AOR = 6.95 (2.07, 23.26)], awkward posture during work [(AOR = 2.36 (1.31, 4.25)], perceived understaffing [(AOR = 1.84 (95% CI = 1.04-3.27)], sleep duration ≥ 8 [AOR = 0.54 (0.31, 0.97)] and sitting intermittently at work [AOR = 0.31 (0.12, 0.80)] were factors significantly associated with LBP. A substantial number, 123 (24.9%), occasionally had intention of leaving their jobs.

Conclusion: The study revealed a high proportion of low back pain (LBP), and turnover intention attributed to LBP. Moreover, organizational and occupational factors were found to be significantly associated with LBP. These findings underscore the importance of targeted interventions aimed at reducing the burden of LBP within these specific areas.

Tawiah et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Back pain; health workers; Ghana.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0317582>

Can home care work be organized to promote musculoskeletal health for workers? Results from the GoldiCare cluster randomized controlled trial

Background: Workers in home care have high sick leave rates, predominantly because of musculoskeletal pain. The Goldilocks Work Principle proposes that health should be promoted by a "just right" composition of work tasks. Weekly workloads differ substantially between home care workers, suggesting that certain workers may have workloads that are too high, impacting their musculoskeletal health. The aim of this study was to evaluate the effectiveness of a "GoldiCare" intervention redistributing weekly workloads to become more equal among the homecare workers. Outcomes were pain in the neck/shoulder and lower back, and the implementation of the intervention was also evaluated. **Methods:** A 16-week cluster randomized controlled trial was conducted with 125 workers from 11 home care units, divided into six intervention units and five control units. The operation coordinators of each intervention unit were educated in the Goldilocks Work Principle and provided with a planning tool to facilitate an even distribution of high care need clients. The control group continued their usual work. Primary outcomes were pain intensity in the neck/shoulder and lower back (0 to 10). Secondary outcomes included fatigue (0 to 10), composition of physical behaviors and postures (accelerometers), adherence to the intervention (weekly usage rates of the planning tool), and performance of the intervention (percentage of workers with an even distribution of workload). **Results:** The analysis showed no difference between the intervention and control groups in change in lower back pain (0.07, 95%CI[-0.29;0.43]), neck/shoulder pain (-0.06, 95%CI[-0.49;0.36]) or fatigue (0.04, 95%CI[-0.52;0.61]). No significant changes were observed in the composition of physical behaviors ($p = 0.067$) or postures ($p = 0.080-0.131$) between the two groups. The

intervention was successfully implemented in three units of the six, with adherence ranging from 82-100% across the intervention period. The remaining three units had an adherence of 0-47%. No improvement in performance was observed. **Conclusion:** No significant intervention effects were observed on musculoskeletal pain, fatigue, or the composition of physical behaviors and postures. The findings suggest that the intervention was not adequately implemented within the organization. Consequently, we cannot discern whether the lack of positive results were due to poor implementation or an ineffective intervention. Results thus highlight the need for a more comprehensive understanding of organizational structures within home care to facilitate more effective implementations. The hypothetical effectiveness of a fully implemented intervention remains unknown.

Lohne et al. 2025.

BMC Health Services Research, vol. 25, no. 1.

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Keywords: Clinical trial; cluster randomized controlled trial; compositional analysis; goldilocks work; home care; Norway; worker health.

Evidence Level: 2B

Link: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-12133-2>

Guiding and Supporting Mental Health and Wellbeing

Mental Health

Elucidating the relationship between burnout and sleep disturbances among firefighters: A network analysis

Background: There exists an intricate relationship between burnout and sleep disturbances, especially among firefighters. Network analysis offers novel perspectives for understanding the interactions of psychopathological variables. This study aims to elucidate the relationship between burnout and sleep disturbances among firefighters through network analysis. **Methods:** A total of 1,486 Chinese firefighters were included in this study. The Maslach Burnout Inventory-General Survey (MBI-GS) (Chinese version) and the Pittsburgh Sleep Quality Index (PSQI) were used to assess burnout and sleep disturbances among firefighters, respectively. Two network construction methodologies, the regularized partial correlation network (RPCN) and the directed acyclic graph (DAG), were employed to perform network analysis.

Results: Within the RPCN, "Subjective sleep quality" emerged as the central domain of firefighters' burnout and sleep disturbances, as well as "Emotional exhaustion" and "Daytime dysfunction" were influential bridge domains connecting the two. From the results pertaining to the DAG, "Subjective sleep quality" was the activation domain that triggered other burnout and sleep disturbance domains, with sleep disturbances serving as the potential cause of burnout. **Conclusions:** Our findings offer some enlightenment into further understanding the relationship between burnout and sleep disturbances in firefighters. Furthermore, the aforementioned central, bridge, and activation domains may be potential targets for prevention and intervention.

Liu et al. 2025.

BMC Public Health, vol. 25 no. 1.

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Keywords: Burnout; firefighters; network analysis; sleep disturbances.

Evidence Level: 5B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21357-8>

'No manner of hurt was found upon him'. The role of religiousness in the mental health effect of job insecurity

This study examines how religiousness moderates the mental health effect of job insecurity, a prevalent stressor in modern societies. We use panel data from a representative, large sample of Dutch employees from 2008 to 2018. Exploiting the longitudinal nature of the data, we control for time-invariant unobserved

heterogeneity. Our main results indicate that job insecurity negatively affects men's but not women's mental health. Religious employees, however, are shielded from the adverse mental health effects of job insecurity. The protective effect of religiousness seems to be different for Catholics and Protestants: Protestant employees are shielded from the adverse mental health effects of job insecurity, whereas Catholic employees are not. Differences in work ethic and social network that religiousness may provide cannot explain the protective effect of religiousness. The mechanism at work appears to be a firm belief in God, as well as belief in life after death, in particular in combination with frequent attendance of religious gatherings or daily prayer. Unlike belief in God's existence, which shields only the religious, belief in life after death shields the religious and non-religious alike. The confluence of increasing job insecurity and increasing secularisation poses a risk to public mental health. Our results contribute to identifying employees who are particularly at risk and could, by shedding light on the mechanisms, suggest directions for potential preventive and curative interventions.

van der Meer et al. 2025.

Social Science & Medicine, vol. 364.

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(<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Keywords: Buffering effect; job insecurity; mental health; panel data; religiousness.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0277953624009560?via%3Dihub>

Association of chronic stress during studies with depressive symptoms 10 years later

The long-term implications of stress during university for individuals' mental health are not well understood so far. Hence, we aimed to examine the potential effect of stress while studying at university on depression in later life. We analysed data from two waves of the longitudinal Study on Occupational Allergy Risks. Using the 'work overload' and 'proving oneself' scales of the Trier Inventory for Chronic Stress and the Patient Health Questionnaire-2 (PHQ-2), participants reported chronic stress during university (2007-2009, mean age 22.2 years, T1) and depressive symptoms ten years later (2017-2018, mean age 31.6 years, T2). We performed linear regression analyses to explore the association between stress during university (T1) and later depressive symptoms (T2). Participants (N = 548, 59% female) indicated rather low levels of stress and depression (PHQ-2 mean score: 1.14 (range: 0-6)). We observed evidence for a linear association between overload at T1 and depression at T2 (regression coefficient (B) = 0.270; 95% confidence interval (CI) = 0.131 to 0.409; standardised regression coefficient (β) = 0.170). Our analyses yielded evidence for an association between chronic stress while studying and risk of depressive symptoms later in life. This finding underlines the importance of implementing sustainable preventive measures against stress among students.

Weinmann et al. 2025.

Scientific Reports, vol. 15, no. 1.

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(<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Keywords: Chronic stress; depression; mental health; psychological stress; students.

Evidence Level: 4B

Link: <https://www.nature.com/articles/s41598-025-85311-9>

VA physicians intent to leave and correlations to drivers of burnout: A cross-sectional study

Background: Physician well-being and workforce retention within the healthcare system is of critical importance. Understanding physicians' intent to leave the organization will inform efforts on optimizing the physician workforce. In this study, we examine the association of burnout and specific drivers of burnout on turnover intentions. **Methods:** The study was a cross-sectional design using data collected from an organization-wide workforce survey. The sample included 16,363 respondents from the Veterans Health Administration (VA). A multinomial model was run to compare physicians indicating turnover intent because they were: a.) changing internal jobs; b.) leaving the organization for another job; or c.) retiring, against physicians indicating they had no plans to turnover. Explanatory variables in the model included

burnout, drivers of burnout, and demographics. We also asked about the primary reason behind turnover intent. **Results:** Most physicians responding to the survey (n = 13,083, 80%) indicated they would stay within their current job, while 5.8% indicated they would look for another VA job, 5% indicated planning to retire, and 9.3% said they would leave the VA workforce altogether. Burnout and less favorable senior leadership perceptions were associated with greater odds of turnover intent specific to finding another VA job, leaving VA, or retire. Experiencing discrimination was related to turnover intent for another VA job and leaving VA, while satisfaction with workload and recognition were related to lower odds of finding another VA job or leaving VA. Culture of well-being was associated with lower odds of leaving VA. **Conclusions:** The study highlights how burnout is associated with turnover intentions with physicians have differing rationales for leaving. Several drivers of burnout were related to turnover intentions for both finding another VA job and leaving VA altogether. Efforts to improve workforce well-being and drivers of burnout may help address the different rationales physicians may have for considering leaving.

Oh et al. 2025.

BMC Health Services Research, vol. 25, no. 1.

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Keywords: Burnout, professional / epidemiology; burnout, professional / etiology; burnout, psychological; health workforce; intention; personnel turnover; physicians.

Evidence Level: 4B

Link: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-12079-5>

Understanding emotional and health indicators underlying the burnout risk of healthcare workers

Burnout of healthcare workers is of increasing concern as workload pressures mount. Burnout is usually conceptualised as resulting from external pressures rather than internal resilience and although is not a diagnosable condition, it is related to help seeking for its psychological sequelae. To understand how staff support services can intervene with staff heading for burnout, it is important to understand what other intrapsychic factors are related to it. A diary tool was used by staff in a region of England to self-monitor their wellbeing over time. The tool explores many areas of mental health and wellbeing and enabled regression analysis to predict which of the various factors provided the strongest indicators of burnout. Using a multiple linear regression model, burnout was found to be most associated with depression, receptiveness, mental wellbeing, and connectedness ($p < 0.05$). It was also shown that 71% of the variance present in the response variable, i.e. burnout, explained by independent variables. Both the Spearman Rank Correlation and the Variance Inflation Factor methods found no evidence for multicollinearity in our regression models. We showed how burnout can be explained using a handful of factors including emotional and mental health indicators. The findings suggest a simple set of indicators can predict burnout and could be used for screening. The data suggests attention to four factors around social safeness, grounding and care in the self, hope and meaning, and having sufficient energy could form the basis of wellbeing programs.

Güveyi et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Emotional; burnout; healthcare workers.

Evidence Level: 5B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0302604>

Psychological detachment from work predicts mental wellbeing of working-age adults: Findings from the 'Wellbeing of the Workforce' (WoW) prospective longitudinal cohort study

Background: There is an urgent need to better understand the factors that predict mental wellbeing in vocationally active adults during globally turbulent times. **Aim:** To explore the relationship between psychological detachment from work (postulated as a key recovery activity from work) in the first national COVID-19 lockdown with health, wellbeing, and life satisfaction of working age-adults one year later, within the context of a global pandemic. **Methods:** Wellbeing of the Workforce (WoW) was a prospective longitudinal cohort study, with two waves of data collection (Time 1, April-June 2020: T1 n = 337; Time 2,

March-April 2021: T2 = 169) corresponding with the first and third national COVID-19 lockdowns in the UK. Participants were >18 years, who were employed or self-employed and working in the UK. Descriptive and parametric (t-tests and linear regression) and nonparametric (chi square tests) inferential statistics were employed. **Results:** Risk for major depression (T1: 20.0% to T2: 29.0%, $p = .002$), poor general health (T1: 4.7% to T2: 0%, $p = .002$) and poor life satisfaction (T1: 15.4% to T2: 25.4%, $p = .002$) worsened over time, moderate-to-severe anxiety remained stable (T1: 26.1% to T2: 30.2%, $p = .15$). Low psychological detachment from work was more prevalent in the first wave (T1: 21.4% and T2: 16.0%), with a moderate improvement observed from T1 to T2 ($t(129) = -7.09$, $p < .001$). No differences were observed with work status (employed/self-employed), except for self-employed workers being more likely to report poor general health at T1 (16.1%, $p = .002$). Better psychological wellbeing, lower anxiety and higher life satisfaction at T2 were observed in those who reported better psychological detachment from work at T1 ($\beta = .21$, $p = .01$; $\beta = -.43$, $p < .001$; $\beta = .32$, $p = .003$, respectively), and in those who improved in this recovery activity from T1 to T2 ($\beta = .36$, $p < .001$; $\beta = -.27$, $p < .001$; $\beta = .27$, $p = .008$, respectively), controlling for age, gender and ethnicity. **Conclusion:** The ability to psychologically detach from work during the first pandemic lockdown, and improvement in this recovery activity over time, predicted better mental wellbeing and quality of life in vocationally active adults after one year of a global crisis, irrespective of work status. Interventions to encourage workers to psychologically detach from work may help to support employee wellbeing at all times, not only in the extreme circumstances of pandemics and economic uncertainty.

Blake et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Psychological detachment; mental wellbeing; working-age.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0312673>

Through restful waters and deep commotion: A study on burnout and health impairment of Italian seafarers from the JD-R model perspective

Background: The work experience of seafarers differs significantly from other land-based occupations due to several factors, particularly remoteness and the restricted work environment. This study seeks to examine the impact of burnout and health impairment in the maritime industry, using the Job Demand-Resources theory as a framework. **Methods:** To investigate these phenomena, an online questionnaire was sent to 239 Italian seafarers (94.6% men, Mage = 39.44, SD = 12.8). We tested a mediated Structural Equation Model (SEM) aimed at predicting negative health outcomes. **Results:** The results show that burnout plays a mediating role between job demands (such as workload and cognitive strain) and resources (such as social support and transformational leadership), influencing variables related to health impairment (such as sleep quality and physical well-being). Furthermore, the findings highlight the direct influence of occupational resources on seafarers' health. **Conclusions:** The discussion highlights the urgent need for more research in the field of organisational psychology in the maritime industry and the discrepancies between these findings, which are consistent with the existing maritime literature, and other studies that do not include seafarers in their sample groups.

Buscema et al. 2025.

F1000 Research, vol. 3.

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Keywords: Burnout; health impairment; JD-R Model; quality of sleep; seafarers.

Evidence Level: 5B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11751612/>

Burnout and mental health in working parents: Risk factors and practice implications

Introduction: Burnout and mental health disorders in parents can have significant implications for families. Little is known about these conditions in working parents. The purpose of this study was to identify the prevalence and mental health risk factors for working parent burnout. **Method:** De-identified data were

collected on a convenience sample of 1285 working parents through an online survey. **Results:** Sixty-five percent of working parents reported burnout. Depression, anxiety, attention deficient hyperactivity disorder, abuse, or history of a mental health disorder in the parent were significantly correlated with parental burnout. Anxiety, attention deficient hyperactivity disorder, presence of a mental health disorder in the child, or if parents thought their child might have a mental health disorder were significantly correlated with parent burnout. Parental burnout was significantly associated with greater risk of child maltreatment. **Discussion:** This study provides insight into the prevalence and mental health risk factors for parental burnout specific to the working parent.

Gawlik et al. 2025.

Journal of Pediatric Health Care, vol. 39, no. 1.

User License:

Keywords: Parenting; abuse; child relationships; emotional health; parent.

Evidence Level: 4B

Link: [https://linkinghub.elsevier.com/retrieve/pii/S0891-5245\(24\)00188-3](https://linkinghub.elsevier.com/retrieve/pii/S0891-5245(24)00188-3)

Bullying, Harassment and Occupational Violence

Industrial workers and bullying: A systematic review and meta-analysis of workplace violence

Workplace violence is a significant problem in industry, especially among rank-and-file workers, known as "blue-collar workers". This systematic review and meta-analysis aim to evaluate the suitability of the reduced Negative Acts Questionnaire (NAQ-R) as an instrument to measure workplace violence in this type of population and synthesize the results of studies that have used it in different industrial sectors. A systematic review was conducted in accordance with the PRISMA 2020 statement. Publications describing populations of industrial workers were identified and included in the meta-analysis. For meta-analysis, we extracted data that allowed us to estimate the effect size of the included studies. We used a random-effects model to estimate the overall effect size and assessed heterogeneity between studies using the I² statistic. The global effect size test showed that the overall effect size was significantly different from zero (3.00, t=22.28, p<0.001), indicating an overall effect in relation to workplace violence measured by the NAQ-R in industrial workers. Our results support the claim that the NAQ-R is an effective tool for assessing workplace violence among industrial workers. These findings have important implications for practitioners and researchers working in the field of industrial psychology and occupational health.

Zamorano-González et al. 2025.

Industrial Health, vol. 63, no. 1.

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Keywords: Blue-collar; industrial workers; meta-analysis; negative acts questionnaire (NAQ-R); systematic review; workplace violence.

Evidence Level: 1A

Link: https://www.jstage.jst.go.jp/article/indhealth/63/1/63_2023-0114/article

Psychosocial Issues

"Are you feeling safe?": An investigation of psychosocial safety climate in the relations of job characteristics and employee exhaustion and engagement

Psychosocial safety climate (PSC) is defined as the corporate climate in relation to employees' perceptions of organizational policies, procedures, and practices for the protection of employee psychosocial safety and well-being. The present study was based on the Demand-Induced Strain Compensation (DISC) Model and proposed that the interplay between identical job demands and resources would be conditioned by PSC. Particularly, high levels of PSC would enable employees to optimally perceive and utilize more job resources in dealing with corresponding job demands. A study was conducted among 406 Chinese workers from various occupational sectors. The findings of hierarchical regression analyses suggested that PSC a) mitigates the negative relation between emotional resources and exhaustion, b) enhances the positive

relation between emotional resources and work engagement, and c) mitigates the negative relation between emotional demands and work engagement. We also found that PSC is a compensatory factor for low cognitive resources and demands encouraging high work engagement. Although we did not find the proposed three-way interactions, the present findings support the idea that high PSC is a fundamental contextual factor conducive to workers' health and well-being, especially in perceiving and obtaining emotional resources.

Ji et al. 2025.

Industrial Health, vol. 63, no. 1.

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Keywords: Employee well-being; job demands; job resources; matching principle; psychological health; psychosocial safety climate.

Evidence Level: 4B

Link: https://www.jstage.jst.go.jp/article/indhealth/63/1/63_2024-0027/_article

Work-related grief and bereavement experiences of social and community service workers working with people experiencing social disadvantage: A rapid scoping review

Background: While an extensive body of research in palliative care exists on the experiences of grief and bereavement among family caregivers, much of this research is based on normative assumptions of who family caregivers are - housed, financially stable, and with extended family and/or friends to draw on for support. Research shows that in contexts of social disadvantage (e.g., homelessness and poverty, mental health and substance use concerns, racism and discrimination), social and community workers can become 'defacto' family and provide caregiving support at the end of life. Yet, there is little known about the grief and bereavement experiences of this worker group. **Methods:** This study aimed to review the available literature on the experiences of grief and bereavement among workers working with people experiencing social disadvantage. A rapid scoping review was conducted following the JBI scoping review methodology. Six sources (Medline, CINAHL, APA PsycInfo, Web of Science Core Collection, Sociological Abstracts, and Social Work Abstracts) were searched to identify relevant articles published until June 30th, 2023. From the systematic search and screening process, 9 studies met the eligibility criteria and were selected for the analysis. **Results:** Nine studies were included in this review that employed various qualitative approaches. Three main themes emerged from the narrative synthesis and thematic analysis: (1) Working in contexts of inequities, (2) Distress and its attributing factors, (3) Support needs and strategies. **Conclusions:** Caring for socially disadvantaged individuals poses unique challenges, compounded by repeated loss, premature deaths, and societal stigma. Social and community service workers lack formal recognition for their pivotal palliative care role, necessitating organizational support, palliative education, and collective responses to address their unmet grief and bereavement needs. Further research is essential.

Whitlock et al. 2025.

BMC Palliative Care, vol. 24, no. 1.

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Keywords: Bereavement; grief; social and community service workers; social disadvantage.

Evidence Level: 1A

Link: <https://bmcpalliatcare.biomedcentral.com/articles/10.1186/s12904-025-01668-8>

Self-compassion in qualified and student social workers: A systematic literature review and meta-analysis

Purpose: Social work is an intrinsically challenging profession, with high levels of distress and burnout reported amongst professionals. Self-compassion has been suggested as a coping resource that may benefit social workers and reduce levels of distress. There is reason to believe that low self-compassion may confer a vulnerability in social workers, particularly student social workers. The current review aimed to examine how reported levels of self-compassion in social workers compare to the general population and how they compare between qualified and student social workers. Additionally, this review explored the relationship between self-compassion and age, sex/gender, psychological distress, and work-related

psychological wellbeing within social workers. **Materials and methods:** A systematic literature search was conducted using APA PsycINFO, Scopus, Web of Science, CINAHL, and Medline. Twenty-nine articles met inclusion criteria and were assessed for risk of bias. Meta-analysis was used to synthesize the results. **Results:** The meta-analysis found that qualified social workers reported significantly higher levels of self-compassion than student social workers and published general population estimates, although heterogeneity was high. There was some evidence to suggest that levels of self-compassion are related to age, but not to sex/gender. Self-compassion was significantly negatively correlated with psychological distress. **Discussion and conclusion:** The tentative conclusion that qualified social workers may report relatively high levels of self-compassion is encouraging, given the evidenced negative relationship with psychological distress. Given student social workers appear to report lower levels of self-compassion, they may benefit from interventions/support to bolster it, although systemic factors influencing wellbeing must also be considered.

Sessions et al. 2025.

Journal of Evidence-Based Social Work, vol. 22, no. 1.

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Keywords: Self-compassion; psychological wellbeing; social work; social work students; staff wellbeing.

Evidence Level: 1A

Link: <https://www.tandfonline.com/doi/full/10.1080/26408066.2024.2439267>

Exploring the effects of perceived social support and psychological distress through mediation and multigroup analyses in work-related quality of life

Work-related quality of life has emerged as a central focus in the field of occupational health due to its impact on individual well-being and overall quality of life. So, it is crucial to enhance the current theory by conducting a study on the concept across different sectors. Also, the specific mechanisms through which perceived social support influences work-related quality of life remain underexplored. The role of psychological distress as a potential mediator in this relationship has not been investigated. Thus, the study aimed to explore the mediating role of psychological distress in this relationship, while also examining potential gender differences. The study, conducted with 401 teachers through a questionnaire, utilized the AMOS program for data analysis. The findings supported the direct effects among the variables and the mediating role of psychological distress. Additionally, the impact of psychological distress on work-related quality of life was found to be higher for females, but no differences for other paths. The study contributes to the literature by addressing the gap in understanding the mechanisms regarding work-related quality of life. The results highlight the importance of considering psychological distress and gender differences in interventions aimed at improving work-related quality of life.

Yilmaz et al. 2025.

Scientific Reports, vol. 15, no. 1.

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Keywords: Gender differences; mediation analysis; multigroup analysis; perceived social support; psychological distress; work-related quality of life.

Evidence Level: 5B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11699210/>

What is needed to address psychosocial hazards in road transport? Using implementation science to understand the gaps

Work-related psychosocial hazards have a significant influence on the development of musculoskeletal and mental health disorders (MSDs and MHDs). This study used behavioural change theory to guide understanding of barriers and enablers for leaders working in the Heavy Vehicle Road Transport industry, to address workplace psychosocial hazards. The findings will be used to inform design of a future intervention to support leaders to more effectively address these hazards. Principal results and major conclusions: A higher number of barriers than enablers were identified. The most prevalent barriers were

inadequate knowledge and interpersonal skills, and environmental context and inadequate resources, and the most prevalent enabler was risk management. The findings extend previous evidence by providing more specific detail regarding requirements for addressing psychosocial hazards. Further, the findings identified there is a need to improve the capability, opportunity and motivation of leaders to enable them to more effectively address psychosocial hazards.

Otto et al. 2025.

Applied Ergonomics, vol. 122.

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Keywords: Implementation science; occupational health and safety; psychosocial hazards.

Evidence Level: 6A

Link: <https://www.sciencedirect.com/science/article/pii/S0003687024001753?via%3Dihub>

Cultural blind spots: Identifying hidden psychosocial hazards in the workplace

Issue addressed: This article presents a framework to identify hidden psychosocial hazards and emerging mental health risks in the workplace, thereby assisting Persons Conducting a Business or Undertaking. The framework adds value to the processes outlined in SafeWork NSW's Code of Practice for Managing Psychosocial Hazards At Work. Specifically, the article documents a framework to analyse microcultures and back stage sites of enactment where psychosocial hazards and risks may be hidden or obscured in workplace settings. **Background:** The article's framework aims to bring to the surface both the intra and interpersonal tensions employees experience in the social reality they inhabit while they perform their work, thereby positively contributing to organisations and PCBUs by helping them create healthy workplace cultures and psychological safety. **Methods:** Specifically, the article discusses partnering with an organisational ethnographer when a PCBU embarks upon psychosocial investigations to: gain access, select employee participants, start conversations, establish rapport, build trust, collect and analyse data. **Conclusion:** This article theoretically contributes to health promotion literatures by offering organisations a complementary way of extracting deeper insights and understandings of psychosocial hazards and emerging mental health risks which are not apparent with traditional methods of inquiry.

Kiaos 2025.

Health Promotion, vol. 36, no. 1.

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Keywords: Employee mental health; organisational ethnography; psychosocial hazards; work health and safety.

Evidence Level: 6A

Link: <https://onlinelibrary.wiley.com/doi/10.1002/hpja.900>

Unveiling the factors shaping teacher job performance: Exploring the interplay of personality traits, perceived organizational support, self-efficacy, and job satisfaction

Perceiving organizational support is a crucial factor in enhancing teacher job satisfaction and contributes to improving teacher job performance. Previous research has predominantly focused on the impact of job satisfaction on job performance, overlooking the interactions among factors shaping perceived organizational support. This study aims to examine the interrelationships among personality traits, perceived organizational support, self-efficacy, and job satisfaction in influencing teacher job performance. A total of 581 university teachers participated in an empirical study, and the results confirmed that perceived organizational support influences teacher job performance directly and indirectly through personality traits, self-efficacy, and job satisfaction. This study develops and validates a novel model illustrating how perceived organizational support indirectly influences teachers' job performance through personality traits, self-efficacy, and job satisfaction. By emphasizing the mediating roles of personality traits, self-efficacy, and job satisfaction, this study makes a significant contribution to the theoretical literature. Moreover, it provides valuable theoretical insights and practical guidance for universities to formulate support strategies tailored to teachers' personality traits, thereby enhancing their job performance.

Li et al. 2025.

BMC Psychology, vol. 13, no. 1.

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Keywords: Job performance; job satisfaction; perceived organizational support; personality traits; private university; self-efficacy.

Evidence Level: 5B

Link: <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-02324-1>

Psychosocial climate as antecedent for resources to manage emotional demands at work

Background: Effectively managing emotional demands in the workplace is crucial in professions such as healthcare, education, and social work. Recent studies indicate that the psychosocial safety climate within an organization can significantly mitigate the negative effects associated with high emotional demands.

Method: This study examines whether psychosocial safety climate is associated with six practical strategies for managing emotional demands that have previously been found to be associated with less burnout. It utilizes longitudinal data from 1457 participants across 129 different workplaces in various emotionally demanding professions. The associations were analyzed using linear regression and Poisson regression techniques. All analyses incorporated cluster-robust standard errors to account for potential dependencies arising from respondents sharing the same workplace. **Results:** The results indicate that higher levels of psychosocial safety climate are significantly associated with the availability of practical strategies.

Furthermore, the incidence rate of receiving multiple types of support increases significantly for each point increase in psychosocial safety. Additionally, these relationships remain consistent even under high work demands. **Conclusions:** The results underscore the importance of fostering a psychosocial safety climate and increasing the availability of practical strategies to manage emotional demands in the workplace. This approach may safeguard employee well-being in high-demand professions.

Andersen et al. 2025.

International Journal of Environmental Research and Public Health, vol. 22, no. 1.

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Keywords: Emotional demands; practical strategies; psychosocial safety climate.

Evidence Level: 4B

Link: <https://www.mdpi.com/1660-4601/22/1/64>

Can an organizationally anchored, multilevel intervention improve perceived stress and psychosocial factors in the workplace? A pre-post study assessing effectiveness and implementation

Background: Organizational multilevel interventions have been called for as a means to improve psychosocial working conditions, reduce stress, and enhance wellbeing in organizations. However, these types of interventions are highly complex to implement and evaluate, and they remain scarce in the literature. In this study, we present the evaluation of a multilevel intervention conducted in a municipality setting. **Methods:** The intervention was based on a train-the-trainer principle and participatory risk assessment workshops on all organizational levels. Action plans were subsequently developed at the team level, and identified risks, which could not be addressed at the team level, were reported to the management for further action planning or escalation to the next management level. Using a pre-post study design, we evaluated changes in proximal outcomes related to the psychosocial working environment, and distal outcomes related to stress and job satisfaction. Changes over time in outcome measures were analyzed using linear mixed models. A quantitative process evaluation was used to examine the degree of implementation of the intervention. **Results:** Small improvements over time were observed with regard to quantitative demands, overall perception of the psychosocial work environment, job satisfaction, and the psychosocial safety climate. We also observed an increase in empowering leadership. Positive tendencies were also found for predicatability at work, possibilities for solving work tasks and support from closest manager. The effect sizes were small in all cases. No improvements in perceived stress or stress symptoms were found. The study revealed several practical and methodological challenges in conducting and implementing this type of multilevel intervention in a municipal setting.

Conclusions: Overall, our study suggests that the intervention was associated with small positive changes in

certain aspects of the working environment but no improvements were observed in stress outcomes. The study highlights a number of challenges in relation to implementing this type of multilevel intervention in a municipal setting. **Trial registration:** The study was prospectively registered at ISRCTN84940247 on April 23, 2019.

Dalgaard et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Job satisfaction; multilevel intervention; organizational; organizational intervention; participatory; perceived stress; psychosocial safety climate; psychosocial work environment.

Evidence Level: 3B

Link: <https://rdcu.be/eaqHx>

Fostering Work Participation

Return to Work

Return to work post spinal cord injury through a comprehensive rehabilitative program: A case series

Context: Spinal cord injury (SCI) can impair bodily functions and limit an individual's ability to maintain or gain steady employment. Vocational rehabilitation programs have been shown to effectively facilitate individuals with a SCI to return to work, however, further research is needed on the implementation, outcomes, and feasibility of such programs including with the integration of healthcare. **Objective:** The objective of this single-group study was to assess the effectiveness of a comprehensive vocational rehabilitation program, as measured by improvements in employment, work confidence, life satisfaction, and quality of life for individuals with a SCI. **Methods:** Four individuals with a SCI participated in the vocational rehabilitation program. Participants were assigned responsibilities within their department of interest and attended weekly meetings with the vocational rehabilitation team to address barriers, discuss resources and education, and set professional goals. Completion of pre and post-test assessments was required to evaluate the program's impact on participants' work readiness and overall well-being.

Results: Each participant worked with an interdisciplinary team on an individualized work-plan (over 100 h of employment) with necessary accommodations for successful rehabilitation. Participants reported beneficial changes in multiple post-program assessment categories including physical, social, and emotional functions, with all reporting a general improvement in physical strength upon completion of the program.

Conclusion: Our findings suggest that a comprehensive vocational rehabilitation program can be effective in facilitating individuals with SCI to gain greater functional independence and confidently pursue employment. Further studies are crucial to advance the knowledge required to implement a successful rehabilitative program.

Gutierrez et al. 2025.

The Journal of Spinal Cord Medicine, vol. 48, no. 1.

User License: *PMC Open Access Subset*

Keywords: Employment; outcome research; return to work; spinal cord injury; vocational rehabilitation.

Evidence Level: 5B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11749289/>

Referring psychiatric patients to occupational health services for earlier return to work: A qualitative implementation study of barriers and facilitators

Background: Mental disorders are a major public health challenge, and their prevalence is globally increasing. They substantially affect work ability, quality of life, and the number of years of disability. A new model for referring psychiatric patients to occupational health services (OHS) aims to improve the continuity of care and to promote the early return to work (RTW) of workers with diagnosed mental health conditions. The purpose of this qualitative implementation study was to identify the facilitators of and barriers to implementing the new model. **Methods:** We used the Quality Implementation Framework and the Consolidated Framework for Implementation Research (CFIR) as theoretical frameworks. We

interviewed the developers of the model and the psychiatrists and occupational health physicians who deliver it. We invited forty participants to join the study, 17 of whom consented. We conducted nine semi-structured group and individual interviews. Data analysis consisted of analysing the sessions, systematically coding the transcribed texts according to the main domains of CFIR, thematic analysis, and identifying the overarching themes and context-related mechanisms. **Results:** We identified three overarching themes crucially related to the implementation of the model: uncertainty about the scope and boundaries of the cooperation in the model, ambiguity about the size of the target group, and the existing sociocultural and self-stigma related to mental illness. Shared belief in the importance and the positive effects of the model and trust in the developers were the main facilitators of the implementation of the model. The main barriers were the limited availability of the e-referral system between the psychiatrists and OHS, uncertainty regarding the number of eligible patients, and the low number of actual referrals during implementation. **Conclusion:** Collaborative models in mental health care should accommodate various stakeholders from different sectors involved in the treatment and rehabilitation of workers with diagnosed mental health conditions. Helping health care workers contact possible cooperation partners and knowing how to address important individual, workplace-related and sociocultural factors such as stigma may strengthen collaboration between different sectors and stakeholders in mental health care. Future studies should focus on the multi-actor feasibility of the new collaborative models and include the patients' perspective.

Henriksson et al. 2025.

BMC Health Services Research, vol. 25, no. 1.

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Keywords: CFIR; cooperation between health care providers; digital/electronic referral; implementation research; mental health disorders; occupational health services (OHS); psychiatric care; RTW; sickness absence; work disability.

Evidence Level: 5B

Link: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-025-12238-2>

Presenteeism and Absenteeism

Relationship between pain catastrophizing and pain self-efficacy and presenteeism in workers: A cross-sectional-study focusing on gender differences

Presenteeism has been noted to be associated with cognitive factors of pain, such as pain catastrophizing (PC) and pain self-efficacy (PS). Pain perception differs by gender, so it is important to consider gender differences when examining the association between cognitive factors of pain and presenteeism. This study aimed to examine the association between presenteeism and cognitive factors of pain, taking gender differences into account. A cross-sectional survey of 305 workers was conducted using a self-administered questionnaire that included items on pain status, PC, PS, and work performance. Multiple logistic regression analysis was used to test whether PC and PS independently influence presenteeism, separately for men and women. Logistic regression analysis showed that PC was extracted in men, and the group with severe PC had higher odds of presenteeism (odds ratio 6.56, 95% confidence interval [CI] 1.83-23.40). Contrarily, PS was extracted in women, with higher odds of presenteeism in the moderate (odds ratio 2.54, 95% CI 1.01-6.39) and low (odds ratio 5.43, 95% CI 1.31-22.50) PS groups than in the high PS. This study showed that the cognitive factors of pain related to presenteeism may differ by gender.

Kishimoto et al. 2025.

Industrial Health, vol. 63, no. 1.

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Keywords: Gender differences; pain catastrophizing; pain self-efficacy; presenteeism; work functioning.

Evidence Level: 4B

Link: https://www.jstage.jst.go.jp/article/indhealth/63/1/63_2023-0166/article

Female teleworkers with pain have the highest presenteeism, where its primary contributing variable was not those of musculoskeletal disability

Presenteeism, among desk workers with pain can be affected by musculoskeletal disabilities (MSDs), working styles, and gender. In this study, teleworkers were defined as those who teleworked >70% of the time at home, while others were defined as non-full teleworkers. This study aimed to (1) compare the magnitude of presenteeism among four groups: male and female teleworkers with pain and male and female non-full teleworkers with pain, and (2) create a regression model of presenteeism with 66 independent biopsychosocial variables for each group. Data were collected through an anonymous online survey. Presenteeism was evaluated using the work functioning impairment scale. The 66 independent biopsychosocial variables included four disability measures, namely, stiff neck/shoulders, low back pain, and upper or lower limb problems, along with other factors relevant to presenteeism in previous studies, such as age, body mass index, comorbidities, work-related variables, pain catastrophizing, and various psychological distress measures. Data from 1,068 male non-full teleworkers, 1,043 female non-full teleworkers, 282 male teleworkers, and 307 female teleworkers were analyzed. Presenteeism was the highest among female teleworkers with pain. Furthermore, in all models, overall psychological distress, rather than the four MSD measures, was the primary contributing factor for presenteeism.

Takasaki. 2025.

Industrial Health, vol. 63, no. 1.

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Keywords: Disability; musculoskeletal pain; occupational health; presenteeism; teleworkers.

Evidence Level: 4B

Link: https://www.jstage.jst.go.jp/article/indhealth/63/1/63_2024-0068/_article

Workers Compensation

Injured worker participation in assessment during the acute phase of workers compensation rehabilitation: A scoping review

Purpose: Rates of return to work (RTW) are declining in the Australian workers compensation system alongside significant economic and social costs, disputes, and secondary psychological injury. Non-medical assessment of workplace injuries now considers psychosocial and workplace factors, and worker participation in the assessment process is limited. This scoping review examines studies regarding non-medical assessment during the acute phase of rehabilitation in terms of costs, disputes, secondary psychological injury, and worker participation. **Method:** An electronic and manual search of relevant articles across four databases was conducted using PRISMA guidelines, followed by quality assessment. **Results:** Of the 1,630 studies retrieved, 12 met the inclusion criteria with most focused on assessment for risk of obstructed or delayed RTW. **Conclusions:** Non-medical assessment in the acute stage of rehabilitation identifies risk for delayed or complicated RTW, overlooking potential for the process of assessment to contribute to disputes and development of secondary psychological injury. Doubt around the capacity of workers to participate objectively in assessment persists. These are aspects of assessment worthy of further exploration for their impact on RTW outcomes.

Anderson et al. 2025.

Disability and Rehabilitation, vol. 47, no. 1.

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Keywords: Workers' compensation; assessment; injured workers; injury management; worker participation; workplace injury rehabilitation.

Evidence Level: 1A

Link: <https://www.tandfonline.com/doi/full/10.1080/09638288.2024.2337101>

Working hours

How can a 4-day working week increase wellbeing at no cost to performance?

The 4-day working week is gaining interest, with international trials reporting enhanced staff wellbeing and performance, despite spending less time on the job. Here, we argue that improved performance on a 4-day working week arises through two psychological mechanisms of recovery and motivation: because better rested, better motivated brains, create better work.

Rae et al. 2025.

Trends In Cognitive Sciences, vol. 29, no. 1.

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Keywords: 4-day working week; burnout; occupational psychology; productivity; sleep; working time reduction.

Evidence Level: 6A

Link: [https://linkinghub.elsevier.com/retrieve/pii/S1364-6613\(24\)00290-0](https://linkinghub.elsevier.com/retrieve/pii/S1364-6613(24)00290-0)

The consequences of after-hours work: A fixed-effect study of burnout, pain, detachment and work-home conflict among Norwegian workers

Objectives: Working outside the workplace and ordinary work hours has become common for a larger part of the working population. The objective of the current study was to examine the relationship between working after-hours and employee burnout, musculoskeletal pain, detachment and work-home conflict, delineating the independent effect of four different types of after-hours work, and the moderating role of work-time control. **Methods:** The data comprised longitudinal questionnaire data from 1465 full-time employees in Norway across four waves (2021-2022). We examined the link between four types of after-hours work: (i) long daily work hours (>10 hours); (ii) late evening work (after 21:00 hours); (iii) quick returns (<11 hours continued rest); and (iv) long weekly work hours (>40 hours a week) and employee health and wellbeing (ie, work-home conflict, detachment, burnout, and musculoskeletal pain), in fixed effects models. We stratified the analyses by working-time control. **Results:** The results support a link between late evening work, long daily and weekly work, and higher work-home conflict and lower detachment as well as between weekly work hours and higher burnout. The findings yielded limited support for work-time control as a moderating factor; the link between quick returns and burnout was only evident for employees with below-average work-time control. **Conclusions:** The four types of after-hours work were all independently related to at least one employee outcome, although the link with quick returns was only evident when work-time control was below average. The results are important for practitioners aiming to implement family-friendly and healthy practices.

Bernstrøm et al. 2025.

Scandinavian Journal of Work, Environment and Health, vol. 51, no. 1.

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Keywords: Burn-out; after-hours; work; pain; detachment; work-home conflict.

Evidence Level: 4B

Link: <https://www.sjweh.fi/article/4198>

Time Tetris: A longitudinal study on compressed schedules and workplace well-being at IKEA

Background: Compressed schedules, where workers perform longer daily hours to enjoy additional days off, are increasingly promoted as a workplace well-being intervention. Nevertheless, their implications for work-related well-being outcomes, such as recovery from work and burnout risk, are understudied. This gap leaves employers with little evidence on whether and how the arrangement contributes to workplace well-being. **Methods:** IKEA Belgium offered its employees the option to enter compressed schedules in the aftermath of a national labour reform aimed at improving well-being and reducing burnout. We collected data on psychological detachment from work, work-related exhaustion, and burnout risk in four waves before and after implementation. We used mixed-effects growth models to estimate the within-subjects changes in these three domains, and two-way fixed effects models to compare changes with those from a non-treated comparison group. **Results:** Workers experienced increased psychological detachment from

work in compressed schedules, yet we saw no decrease in work-related exhaustion or burnout risk. While between-subjects analyses confirm that the increase in psychological detachment is related to treatment, they also hint that this association may fade out during summer when all workers take more extended breaks from work. **Conclusions:** While workers in compressed schedules may mentally switch off from work more effectively, this does not translate into decreased burnout risk scores. Consistent with theoretical expectations, policymakers and employers should be cautious in assuming that the arrangements significantly reduce burnout.

du Bois et al. 2025.

BMC Public Health, vol. 25, no. 11.

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Keywords: Burnout; compressed schedule; exhaustion; psychological detachment; well-being.

Evidence Level: 4B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21323-4>

Prevention of hypertension due to long working hours and other work hazards is needed to reduce the risk of cardiovascular disease

Hypertension is the foremost risk factor for cardiovascular disease (CVD), which is the leading cause of death globally. In some countries, such as the US, the prevalence of hypertension and working-age CVD mortality are increasing. CVD is also the most common work-related disease worldwide. Long working hours and other psychosocial stressors at work are important modifiable risk factors for hypertension and CVD. However, there has been inadequate attention paid to the primary prevention of work-related hypertension and CVD. The state-of-the-art method for blood pressure (BP) measurement is 24-hour ambulatory BP (ABP), necessary for accurate clinical decision making and to assess risk factors for BP elevation. Thus, ABP should be used in workplace screening and surveillance programs (along with surveys) to identify occupational risk factors, high-risk job titles, worksites and shifts, and evaluate programs designed to improve work organization. For example, after 30 months of an organizational intervention designed to lower psychosocial stressors at work among >2000 public sector white-collar workers in Quebec, Canada, BP and prevalence of hypertension significantly decreased in the intervention group, with no change in the control group, and a significant difference between the intervention and control groups. Further research is also needed on mechanisms linking work-related factors to hypertension and CVD, the cardiovascular effects of understudied work stressors, high-CVD risk worker groups, potential "upstream" intervention points, and country differences in working conditions, hypertension and CVD. Important organizational interventions, such as collective bargaining, worker cooperatives, or legislative and regulatory-level interventions, need to be evaluated.

Landsbergis et al. 2025.

Scandinavian Journal of Work, Environment and Health, vol. 51, no. 1.

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Keywords: Hypertension; long working hours; work hazards; cardiovascular disease.

Evidence Level: 6B

Link: <https://www.sjweh.fi/article/4196>

Wellness Programs

Effectiveness of workplace health promotion programs for industrial workers: A systematic review

Background: Workplace health promotion is essential for individual and organisational well-being and disease prevention, also in industrial workers. As the transfer of the evidence on the effectiveness of such programs into practice is limited due to scattered effects, the need for a consolidation of the available studies is given. The purpose of this systematic review was to synthesise the evidence on the effectiveness of workplace health promotion programs for industrial workers. **Methods:** An electronic literature search was conducted in PubMed, Cochrane Library, Web of Science™, Scopus, and EBSCOHost until July 26th 2023. Studies investigated industrial workers who performed manual labour for at least 20 h per week were included. They had to receive a workplace health promotion intervention under any control

condition. Outcomes were workplace health interventions' safety and corresponding health-related outcomes. The revised Cochrane risk-of-bias assessed the risk of bias (Rob 2) tool for randomised control trials (RCT) and cluster RCT. Quality assessment was performed using a modified Downs and Black Checklist. **Results:** Of the 25,555 studies initially identified, 39 were included. Generally, the mean quality of the studies was moderate, with most studies judged with a high overall risk of bias. Twenty-seven studies employed a behavioural approach, while one study adopted an organisational one. Ten studies utilised a multicomponent approach, and one intervention improved safety outcomes. The analysis of the results indicated an overall positive but heterogeneous effect across the different approaches.

Conclusions: The studies included in this review provide evidence that workplace health promotion can be effective. However, the overall findings are inconclusive due to the high risk of bias. Therefore, the results should be interpreted cautiously. Despite the considerable amount of research conducted in this field, additional well-designed studies are needed to fully confirm the effectiveness and determine the most promising types of interventions for improving and maintaining industrial health.

Javanmardi et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Blue-collar workers; evidence-based practice; methodological quality; occupational health; systematic review; well-being.

Evidence Level: 1A

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21365-8>

Resilience-based interventions in the public sector workplace: A systematic review

Background: Previous studies have advocated the benefits of resilience-based interventions for creating a healthy and sustainable workforce. However, resilience is defined and measured in diverse ways. Therefore, the aim of this systematic review is (1) to identify how resilience is defined within different workplace interventions, translated into intervention content, and measured in these interventions; and (2) to synthesize the effectiveness of these interventions. **Methods:** A systematic literature search was conducted and included articles from 2013 - 2023. Twenty-four studies met the inclusion criteria, covering a total of 26 unique interventions. Definitions were categorized as: resilience as a trait, process, or outcome. Cohen's D was calculated to depict the effect sizes within the intervention groups from pre-test to post-test and, when possible, from pre-test to 3-month follow-up. **Results:** Included studies applied a wide range of definitions; most definitions fitted within the trait-orientation, conceptualizing resilience as an individual characteristic or ability, or the process-orientation, conceptualizing resilience as a dynamic process. No studies solely used the outcome-orientation, but some did combine elements of all three orientations. Various definitions, measures and intervention strategies were applied, however, almost half of the studies (46%) showed inconsistencies within these choices. Furthermore, findings show that most resilience-based interventions in the workplace have a positive impact. While educational workshops with a higher frequency and duration had medium to large effects, solely digital interventions had small effects, changing to small to medium when combined with non-digital elements. **Conclusions:** Findings suggest that resilience-based can benefit employees by enhancing their psychological well-being. This, in turn, can lead to improved work-related outcomes such as productivity, thereby offering advantages to employers as well. This underscores the growing recognition that resilience should be viewed as a shared responsibility between the individual and the organization. Further advancement in the field of resilience-based interventions in the workplace calls for future research to focus on maintaining consistency when choosing a definition of resilience, developing intervention content, and choosing an outcome measure.

Preregistration: The search protocol was preregistered in the Open Science Framework, see Hollaar et al. (2023). <https://doi.org/10.17605/OSF.IO/UKYF7> .

Hollaar et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Health promotion; intervention studies; mental health; occupational health; psychological resilience.

Evidence Level: 1A

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-21177-2>

Beyond image: Evaluating the perceived effectiveness of workplace mental health programs in the insurance sector

Background: Mental health programs in the workplace have gained increasing attention as organizations strive to support employee well-being. However, the effectiveness and reception of these initiatives from the employee perspective still need to be studied. **Methods:** A qualitative study used 30 semi-structured interviews with individuals from large insurance companies in Portugal. It focused on their perceptions of workplace mental health programs, stress, and time management training. The participants ranged in age from 25 to 55 years (average 38), with a slightly more significant proportion of women, reflecting the gender distribution in the Portuguese insurance sector. The sample had an average of 10 years of industry experience, from entry-level to middle-management roles. Thematic analysis with an audit trail and thick description was used to analyse data.

Results: The findings revealed a significant disconnect between the intended benefits of these programs and employee experiences. Many viewed the initiatives as primarily beneficial for the company's image rather than employee well-being. A common concern was that workload remained unchanged after training, leading employees to prioritize work over program participation. Additional key findings included generational differences in program perception, with younger employees expressing more frustration over the lack of follow-through. Most participants reported that initiatives failed to address the root causes of stress. More than half of the interviewees felt a lingering stigma around discussing mental health at work, whereas a majority mentioned increased stress due to rapid industry digitalization. Notably, many participants perceived a significant gap between upper management's promotion of mental health initiatives and their understanding of daily employee challenges. **Conclusions:** These findings highlight a critical gap between implementing workplace mental health programs and their perceived value among employees. Organizations need to reevaluate their mental health initiatives to ensure that they provide tangible benefits and address underlying workplace stressors. Future research should explore strategies to better align mental health programs with the insurance sector's employee needs and work realities.

Barbosa et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Employee well-being; insurance sector; mental health stigma; workplace mental health programs.

Evidence Level: 5B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21302-9>

Cost-utility and cost-benefit analysis of a multi-component intervention (NEXpro) for neck-related symptoms in Swiss office workers

Background: Neck pain is a significant public health issue, especially among office workers, with a prevalence ranging from 42 to 68%. This study aimed to evaluate the cost-utility and cost-benefit of a multi-component intervention targeting neck pain in the general population of office workers in Switzerland. The 12-week multi-component intervention consisted of neck exercises, health promotion information workshops, and workplace ergonomics sessions. **Methods:** The study was designed as a stepped-wedge cluster randomized controlled trial and assessed using an employer's perspective. The main analysis focused on the immediate post-intervention period. Long-term effects were examined in a subsample at the 4, 8, and 12-month follow-ups. The intervention effects on costs and quality-adjusted life years (QALYs) were estimated using generalized linear mixed-effects models, controlling for confounding factors. Incremental cost-effectiveness ratios (ICERs) and cost-effectiveness acceptability curves were presented, along with calculations of the break-even point and the return on investment. Various sensitivity analyses were performed. **Results:** A total of 120 office workers participated in the trial, with 100 completing the intervention period and 94 completing the entire study. The main analysis included 392 observations. The intervention had a significant positive effect on QALYs and a nonsignificant effect on

costs. The ICER was estimated at -25,325 per QALY gain, and the probability of the intervention being cost saving was estimated at 88%. The break-even point was reached one week after the end of the intervention. **Conclusion:** The multi-component intervention is likely to reduce company costs and simultaneously improve the quality of life of employees. However, the implementation of such interventions critically depends on evidence of their cost-effectiveness. As there is still a large research gap in this area, future studies are needed. **Trial registration:** ClinicalTrials.gov, [NCT04169646](https://clinicaltrials.gov/ct2/show/study/NCT04169646). Registered 15 November 2019-Retrospectively registered. **Trial protocol:** Aegerter AM, Deforth M, Johnston V, Ernst MJ, Volken T, Luomajoki H, et al. On-site multi-component intervention to improve productivity and reduce the economic and personal burden of neck pain in Swiss office-workers (NEXpro): protocol for a cluster-randomized controlled trial. *BMC Musculoskelet Disord.* 2020;21(1):391. <https://doi.org/10.1186/s12891-020-03388-x>.

Brunner et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Cost-utility; health economic evaluation; neck pain; presenteeism; quality adjusted life years; randomized controlled trial; workplace intervention.

Evidence Level: 2B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-21103-6>

Effectiveness of digital mental health interventions in the workplace: Umbrella review of systematic reviews

Background: There is potential for digital mental health interventions to provide affordable, efficient, and scalable support to individuals. Digital interventions, including cognitive behavioral therapy, stress management, and mindfulness programs, have shown promise when applied in workplace settings.

Objective: The aim of this study is to conduct an umbrella review of systematic reviews in order to critically evaluate, synthesize, and summarize evidence of various digital mental health interventions available within a workplace setting.

Methods: A systematic search was conducted to identify systematic reviews relating to digital interventions for the workplace, using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis). The review protocol was registered in the Open Science Framework. The following databases were searched: PubMed, Web of Science, MEDLINE, PsycINFO, and Cochrane Library. Data were extracted using a predefined extraction table. To assess the methodological quality of a study, the AMSTAR-2 tool was used to critically appraise systematic reviews of health care interventions. **Results:** The literature search resulted in 11,875 records, which was reduced to 14 full-text systematic literature reviews with the use of Covidence to remove duplicates and screen titles and abstracts. The 14 included reviews were published between 2014 and 2023, comprising 9 systematic reviews and 5 systematic reviews and meta-analyses. AMSTAR-2 was used to complete a quality assessment of the reviews, and the results were critically low for 7 literature reviews and low for the other 7 literature reviews. The most common types of digital intervention studied were cognitive behavioral therapy, mindfulness/meditation, and stress management followed by other self-help interventions.

Effectiveness of digital interventions was found for many mental health symptoms and conditions in employee populations, such as stress, anxiety, depression, burnout, and psychological well-being. Factors such as type of technology, guidance, recruitment, tailoring, and demographics were found to impact effectiveness. **Conclusions:** This umbrella review aimed to critically evaluate, synthesize, and summarize evidence of various digital mental health interventions available within a workplace setting. Despite the low quality of the reviews, best practice guidelines can be derived from factors that impact the effectiveness of digital interventions in the workplace. **Trial registration:** OSF Registries osf.io/rc6ds; <https://doi.org/10.17605/OSF.IO/RC6DS>.

Cameron et al. 2025.

JMIR Mental Health, vol. 12.

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Keywords: CBT; Cochrane Library; Medline; PRISMA; Pubmed; Web of Science; anxiety; burnout; databases; depression; digital interventions for mental health; digital mental health; evaluation; psychological; stress; umbrella review; workplace wellbeing.

Evidence Level: 1A

Link: <https://mental.jmir.org/2025/1/e67785>

Organisational Issues

Organisational changes and depression: The mediating role of psychosocial work exposures in the SUMER study

Background: Studies are lacking on the associations between organisational changes and mental disorders and the underlying mechanisms. The objectives were to explore the associations between organisational changes and depression, measured using a validated instrument, and the mediating role of psychosocial work exposures. **Methods:** The study relied on the national representative sample of 25,977 employees of the French SUMER survey. The PHQ-9 instrument was used to measure depression. Weighted robust Poisson regression analyses were performed to explore the associations between organisational changes, psychosocial work exposures, and depression. The method by Karlson, Holm and Breen (KHB) was used to estimate the mediating role (contributions) of psychosocial work exposures in the associations between organisational changes and depression. **Results:** The exposure to any organisational change increased the risk of depression (Prevalence Ratio = 1.85, 95 % CI: 1.61-2.13). All types of organisational changes were found to be risk factors for depression. The risk of depression increased with the number of organisational changes. Psychosocial work exposures contributed to mediating the associations between organisational changes and depression. The exposures with the highest contributions were found to be high psychological demands, low esteem, low job promotion, low job security, workplace bullying, and ethical conflict. Taking all the exposures into account mediated the associations by 47-100 %. **Limitations:** The study limitations included the cross-sectional design and a potential healthy worker effect. **Conclusions:** More prevention oriented towards work organisation and the psychosocial work environment may help to reduce depression among working populations.

Niedhammer et al. 2025.

Journal of Affective Disorders, vol. 369.

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Keywords: Job stress; mental health; work organisation; working populations.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S016503272401646X?via%3Dihub>

Implementing a workplace participatory approach to support working caregivers in balancing their work, private life and informal care: Results of a process evaluation

Background: Many organizations are faced with growing numbers of employees who combine their jobs with informal caregiving responsibilities. To support working caregivers in maintaining a good balance between work, private life and informal care, a workplace participatory approach (PA) intervention was implemented in four Dutch organizations. This study's aims were to evaluate the degree of PA implementation, contextual factors influencing implementation, and stakeholder experiences with the PA. **Methods:** A mixed methods process evaluation was conducted alongside a randomized controlled trial among three stakeholder groups: caregiving employees, their supervisors, and trained occupational professionals who acted as PA process facilitators. The implementation frameworks of Steckler and Linnan (2002) and Carrol et al. (2007) were applied to evaluate recruitment, reach, dosage, fidelity and context, as well as stakeholders' satisfaction, experiences and perceived intervention outcomes. Data were collected after PA implementation (4-7 months) using questionnaires, semi-structured interviews, checklists and research logs. **Results:** Of the 57 caregivers in the intervention group, 48 participated in the stepwise intervention. Among them, 20 (42%) completed all seven steps of the PA, and 30 (63%) involved their supervisors. PA implementation and supervisor involvement varied based on personal factors (e.g. a need

for balance-related improvements; preference to keep caregiving private), interpersonal factors (e.g. caregiver-supervisor relationship quality), and organizational factors (high work demands; a supportive workplace culture for caregivers). Caregivers, supervisors, and process facilitators reported positive experiences with the PA, finding it valuable for addressing informal caregiving, receiving support and working on balance-related changes in multiple life domains. Some caregivers, however, needed more than the standard 3 PA meetings to identify key issues and implement solutions. **Conclusions:** Stakeholders found the PA helpful in addressing working caregivers' work-life balance, but PA implementation can be further stimulated by creating a supportive organizational culture in which it is encouraged and safe to discuss informal care. Moreover, to better support working caregivers in the long term, the PA should be viewed as an ongoing and iterative process taking into account their evolving balance and circumstances. **Trial registration:** Current Controlled Trials ISRCTN15363783 (Registration date 21 November 2022; Retrospectively registered).

Vos et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Caregiver support; informal care; occupational professionals; participatory approach; process evaluation; supervisors; work-life balance; working caregivers; workplace.

Evidence Level: 5B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-21100-9>

Job Design

Teacher voices matter: The role of teacher autonomy in enhancing job satisfaction and mitigating burnout

This study aims to explore variables associated with teacher burnout at the end of the 2021-2022 school year and shed light on teachers' mental health issues related to psychological factors. We collected survey data from 824 United States teachers. Using a moderated mediation analytic model, the results of this study showed that teachers' autonomy had considerable interaction effects on job satisfaction and burnout with other variables in this study (i.e., administrative support on job satisfaction and job satisfaction on burnout). Teachers with more experience and higher job satisfaction showed lower burnout scores. Furthermore, results showed significant relationships between key variables influencing burnout. These findings are key as teacher attrition grows across the United States, and school leaders should look to support teachers' well-being.

Ha et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Voices; autonomy; teachers; burnout; job satisfaction.

Evidence Level: 5B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0317471>

Do job demands and resources differ between permanent and temporary eldercare workers in Sweden?

Introduction: Eldercare organizations face high sickness absence rates and staff turnover and rely heavily on temporary workers to fill staffing gaps. Temporary workers may experience differences in job demands and resources compared with permanent workers, but this has been largely understudied. **Objective:** To compare perceived job demands and resources between permanent and temporary Swedish eldercare workers. **Methods:** Permanent and temporary eldercare workers in a Swedish municipality were invited to answer a digital survey on work environment conditions. Differences between permanent and temporary workers in job demands and resources were analyzed using multivariate analysis of variance adjusted for age, sex, place of birth, and percent of full-time work and univariate analyses were conducted to consider differences in specific factors. **Results:** A total of 1076 permanent and 675 temporary workers received the survey, and the final study sample included 451 permanent and 151 temporary workers. Multivariate analyses revealed that temporary workers reported statistically significant lower job demands compared to

permanent workers, but no statistically significant differences in resources were found between the groups. Univariate analyses showed that temporary workers reported lower quantitative demands, perceived exertion, and time spent bending forward, than permanent workers. These data suggest comparable support across groups, but a higher workload among permanent workers. **Conclusion:** Our findings indicate that temporary workers experienced lower job demands than permanent workers, but that no notable difference was found in resources. Interventions aimed at distributing job demands more evenly among eldercare workers with different employment forms may be necessary.

Lögdal et al. 2025.

Annals of Work Exposures and Health, vol. 69, no. 1.

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Keywords: Employment form; influence; physical; psychosocial; support; work environment conditions; workload; zero-hours contract.

Evidence Level: 4B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11706790/>

Shift Work

Duration of exposure to night work and cardiovascular risk factors: Results from 52,234 workers of the CONSTANCES study

Background: The cardiovascular consequences of night work are increasingly well-known. Implementing effective preventive strategies, however, requires further investigation of the effects of exposure duration. This study sought to assess the cumulative dose-effect of night work exposure on the prevalence of cardiovascular risk factors among current and former night workers in France. **Methods:** We used cross-sectional data from the CONSTANCES cohort to design analyses on 52,234 workers exposed or not exposed to night work during their working life. The cumulative duration of night work exposure was assessed among permanent, rotating and former night workers. BMI, blood pressure, lipids, glycaemia and SCORE2 were measured in health screening centres. **Results:** Excess risks of moderate-high SCORE2 were observed for permanent (+ 43%), rotating (+ 72%) and former night workers (+ 101%). Among male permanent night workers, excess risks for obesity (+ 76%) and central obesity (64%) were recorded at five years of exposure and for T2DM (+ 119%) at 10 years of exposure. Male rotating night workers showed excess risks at five years of exposure for obesity/central obesity (about + 45%) and high triglyceridaemia (+ 52%). Female former night workers were at excess risk at five years of exposure for obesity/central obesity (about + 45%), HBP (+ 34%) and low-HDL-C (+ 35%). **Conclusions:** The effects on cardiovascular risk factors varied according to the types of night work and within sex groups. Some effects were observed after five years of exposure. These results support the need for early and appropriate monitoring of cardiovascular risk factors among current and former night workers.

Bourgkard et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Blood pressure; glycaemia; lipids; night-shift work; obesity; occupational exposure.

Evidence Level: 4B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-025-21511-2>

Associations of maternal night shift work during pregnancy with DNA methylation in offspring: A meta-analysis in the PACE consortium

Background: Night shift work during pregnancy has been associated with differential DNA methylation in placental tissue, but no studies have explored this association in cord blood. We aimed to examine associations of maternal night shift work with cord blood DNA methylation. **Methods:** A total of 4487 mother-newborn pairs from 7 studies were included. Maternal night shift work during pregnancy was ascertained via questionnaires and harmonized into "any" versus "no". DNA methylation was measured in cord blood using the Illumina Infinium Methylation arrays. Robust linear regression models adjusted for

relevant confounders were run in the individual cohorts, and results were meta-analyzed.

Results: Maternal night shift work during pregnancy ranged from 3.4% to 26.3%. Three CpGs were differentially methylated in relation to maternal night shift work during pregnancy at a false discovery rate adjusted $P < 0.05$: cg10945885 (estimate (β) 0.38%, standard error (SE) 0.07), cg00773359 (β 0.25%, SE 0.05), and cg21836426 (β - 0.29%, SE 0.05). Associations of the identified CpGs were found in previous literature for gestational age and childhood and adolescent BMI. In a mouse model of prenatal jet lag exposure, information on offspring DNA methylation of ten homologous genes annotated to the 16 CpGs with $P < 1 \times 10^{-5}$ in our analysis was available, of which eight were associated (enrichment P : 1.62×10^{-11}).

Conclusion: Maternal night shift work during pregnancy was associated with newborn DNA methylation at 3 CpGs. Top findings overlapped with those in a mouse model of gestational jet lag. This work strengthens evidence that DNA methylation could be a marker or mediator of impacts of circadian rhythm disturbances.

Marques et al. 2025.

Clinical Epigenetics, vol. 17, no. 1.

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Keywords: Cohort study; DNA methylation; epigenetics; night shift work; pregnancy.

Evidence Level: 4B

Link: <https://clinicalepigeneticsjournal.biomedcentral.com/articles/10.1186/s13148-024-01810-y>

A systematic review and meta-analysis on light therapy for sleep disorders in shift workers

Sleep disorders constitute a significant disruption for shift workers. Beyond medical interventions, phototherapy is recognized as an effective approach to significantly alleviate sleep disorders, particularly among individuals engaged in shift work. However, the effective dose and efficacy evaluation of phototherapy have not yet been determined. This study conducted a systematic review across five databases from January 1, 1990, to December 31, 2023. A total of 11 articles were selected for meta-analysis using a random-effects model. The results showed that light therapy significantly improved the total sleep time (TST) (MD = 32.54, $p < 0.00001$) and sleep efficiency (SE) (MD = 2.91, $p = 0.007$) of shift workers compared to the control group. Subgroup analysis and regression analysis implied that medium illuminance (900–6000 lx) for a long treatment duration (≥ 1 h) during night was more effective in extending total sleep time, whereas higher-illuminance and increasing dose (lx*h) of light therapy was more beneficial for SE. In summary, light therapy has a degree of efficacy in increasing the overall sleep duration and efficiency for shift workers, the findings of the current study contribute reference and evidence for dose setting and experimental design of phototherapy on shift workers' sleep in clinical and research.

Zhao et al. 2025.

Scientific Reports, vol. 15, no. 1.

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Keywords: Light therapy; meta-analysis; shift worker; sleep disorder.

Evidence Level: 1A

Link: <https://www.nature.com/articles/s41598-024-83789-3>

Management and Leadership

The impact of recognition, fairness, and leadership on employee outcomes: A large-scale multi-group analysis

In the dynamic field of organizational behavior, comprehending the determinants of employee engagement, burnout, and job satisfaction is pivotal. This research investigates the influence of various workplace factors, such as recognition, fairness, leadership, and workload, on these key employee outcomes. Utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) for analysis, the study examines data from 25,285 employees. The results indicate that recognition significantly boosts employee engagement, while fairness and involvement also positively contribute, albeit to a lesser extent. Transformational leadership plays a dual role, enhancing engagement and reducing burnout. Notably, workload overload presents a nuanced impact, affecting both engagement and burnout. The study

additionally reveals the detrimental effect of technological disruption anxiety on job satisfaction. A significant finding from the Multi-Group Analysis (MGA) is the varying impact of these factors between the private and public sectors, particularly in the context of transformational leadership's effect on burnout and the differential influence of workload on burnout. These insights are critical for formulating effective organizational strategies and policies, highlighting the need for customized recognition initiatives, equitable management approaches, and well-balanced workload allocation.

Jo et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Recognition; fairness; leadership; group.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0312951>

Work Ability

Occupational adjustments and work ability of young adult cancer survivors: Results from the AYA-Leipzig study

Purpose: Adolescent and young adult cancer survivors (AYA-CS) face a long working life after treatment, yet factors related to a successful return to work remain largely unexplored. We therefore aimed to investigate the use of occupational adjustments and their impact on work ability upon return to work. **Methods:** As part of the AYA-LE study, we surveyed AYA-CS (aged 18-39 at diagnosis) who returned to work and assessed work ability (Work Ability Index) as well as use and benefit of occupational adjustments. We analyzed predictors of use and benefit of occupational adjustments on average 4 years post-diagnosis using multivariate linear and logistic regression. **Results:** Out of 438 AYA-CS, 389 (88.8%) returned to work after cancer diagnosis and were included in analyses. Mean work ability was $M = 36.2$ ($SD = 6.9$), 11.4% reported poor, 34.7% moderate, 41.4% good and 12.5% excellent work ability. Following treatment, 82.3% used occupational adjustments, most frequently: flexible working hours, gradual reintegration and reduced working hours. The probability of a reduction in working hours was found to be higher among older AYA-CS (≥ 30), female gender and with a fatigue index ≥ 11 ($R^2 = 0.073$). A fatigue index < 11 , elevated levels of pain and the presence of metastases/recurrence were associated with a lower benefit of reduced working hours ($R^2 = 0.183$). Younger age (< 30) and stem cell transplant were associated with a lower benefit of support from colleagues ($R^2 = 0.077$). **Conclusion:** Our results highlight the need for targeted occupational counselling throughout the treatment and even beyond the return-to-work process, considering individual and social factors.

Brock et al. 2025.

Journal of Cancer Research and Clinical Oncology, vol. 151, no. 1.

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Keywords: Adolescent and young adult; cancer; occupational adjustments; psychooncology; return to work; work ability.

Evidence Level: 4B

Link: <https://link.springer.com/article/10.1007/s00432-024-06050-4>

Adapting to the Future of Work

Aging Workforce

The influence of workload on muscle fatigue, tissue properties, and postural stability in older and younger workers

Demographic aging and extended working lives have prompted interest in the physiological changes that occur with age, particularly in the lumbar spine. Age-related declines in muscle quality and intervertebral disc alterations may reduce muscular endurance, strength, and postural stability, potentially increasing the risk of musculoskeletal injuries in older workers. As experienced workers play an important role in

addressing labor shortages, understanding the impact of age-related physiological changes on the biomechanical properties of the lumbar spine is key to ensure safe and sustainable employment for aging individuals. This study aimed to compare the impact of daily work-related physical efforts on lumbar muscular endurance and fatigue, spine tissue properties, and postural stability between older and younger workers. A total of 40 participants, 20 in Group 1 (young workers: ≤ 50 years; mean age: 28.89 ± 7.23) and 20 in Group 2 (older workers: > 50 years; mean age: 59.40 ± 5.29) were recruited. Measurements taken at the beginning and end of the workday included lumbar muscle endurance, maximal voluntary contraction, disc height and postural stability. Age groups were compared using repeated measures ANOVA across the two measurement times. No significant interaction between age and time of day was observed, indicating that, for similar workload, both age groups experienced similar changes. Despite age-related effects on maximal force production and postural stability, incorporating weight as a covariate revealed that these differences were partially explained by the weight discrepancy between older and younger workers. The study suggests that age may not be the primary determinant of the impact of a workday on older workers.

Ducas et al. 2025.

PLoS One, vol. 20, no. 1.

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Keywords: Muscle fatigue; tissue properties; postural stability.

Evidence Level: 4A

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0316678>

Subclinical depressive symptoms and job stress differentially impact memory in working and retired older adults

Retirement has been associated with cognitive decline beyond normal age-related decline. However, there are many individual differences in retirement that can influence cognition. Subclinical depressive symptoms are common in late life and are associated with general memory decline and a bias towards remembering negative events (i.e., better memory for negative vs. positive or neutral stimuli), in opposition to a reported positivity bias (i.e., better memory for positive vs. negative or neutral stimuli) in aging. Furthermore, job stress is often a major contributor to retirement decisions and may impact cognition post-retirement. Here, we aimed to examine how subclinical depressive symptoms and job stress in working and retired older adults impacted emotional memory. We found that retired, but not working, older adults with greater depressive symptoms showed enhanced negative and impaired positive memory. Second, working older adults with moderately high current job stress showed better memory overall but a weaker positivity bias, while retired older adults with moderately high retrospective job stress showed worse memory overall and a stronger positivity bias. These findings suggest that subclinical depressive symptoms and job stress have differing impacts on emotional memory in late life depending on retirement status.

Ferguson et al. 2025.

Scientific Reports, vol. 15, no. 1.

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Keywords: Subclinical depression; depression; job stress; memory.

Evidence Level: 5B

Link: <https://www.nature.com/articles/s41598-025-87333-9>

Technology

The effects of self-monitoring using a smartwatch and smartphone app on stress awareness, self-efficacy, and well-being-related outcomes in police officers: Longitudinal mixed design study

Background: Wearable sensor technologies, often referred to as "wearables," have seen a rapid rise in consumer interest in recent years. Initially often seen as "activity trackers," wearables have gradually expanded to also estimate sleep, stress, and physiological recovery. In occupational settings, there is a growing interest in applying this technology to promote health and well-being, especially in professions with highly demanding working conditions such as first responders. However, it is not clear to what extent

self-monitoring with wearables can positively influence stress- and well-being-related outcomes in real-life conditions and how wearable-based interventions should be designed for high-risk professionals.

Objective: The aim of this study was to investigate (1) whether offering a 5-week wearable-based intervention improves stress- and well-being-related outcomes in police officers and (2) whether extending a basic "off-the-shelf" wearable-based intervention with ecological momentary assessment (EMA) questionnaires, weekly personalized feedback reports, and peer support groups improves its effectiveness.

Methods: A total of 95 police officers from 5 offices participated in the study. The data of 79 participants were included for analysis. During the first 5 weeks, participants used no self-monitoring technology (control period). During the following 5 weeks (intervention period), 41 participants used a Garmin Forerunner 255 smartwatch with a custom-built app (comparable to that of the consumer-available wearable), whereas the other 38 participants used the same system, but complemented by daily EMA questionnaires, weekly personalized feedback reports, and access to peer support groups. At baseline (T0) and after the control (T1) and intervention (T2) periods, questionnaires were administered to measure 15 outcomes relating to stress awareness, stress management self-efficacy, and outcomes related to stress and general well-being. Linear mixed models that accounted for repeated measures within subjects, the control and intervention periods, and between-group differences were used to address both research questions. **Results:** The results of the first analysis showed that the intervention had a small (absolute Hedges $g=0.25-0.46$) but consistent effect on 8 of 15 of the stress- and well-being-related outcomes in comparison to the control group. The second analysis provided mixed results; the extended intervention was more effective than the basic intervention at improving recovery after work but less effective at improving self-efficacy in behavior change and sleep issues, and similarly effective in the remaining 12 outcomes. **Conclusions:** Offering a 5-week wearable-based intervention to police officers can positively contribute to optimizing their stress-related, self-efficacy, and well-being-related outcomes.

Complementing the basic "off-the-shelf" wearable-based intervention with additional EMA questionnaires, weekly personalized feedback reports, and peer support groups did not appear to improve the effectiveness of the intervention. Future work is needed to investigate how different aspects of these interventions can be tailored to specific characteristics and needs of employees to optimize these effects.

de Vries et al. 2025.

JMIR Mhealth Uhealth, vol. 13.

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Keywords: App; awareness; assessment; efficacy; emergency responders; occupational medicine; police officers; psychological; stress; well-being; questionnaire; self-efficacy; sensor; smartphone app; smartwatch; stress awareness; stress management; wearable device; wearable electronic devices; wearables; well-being.

Evidence Level: 5B

Link: <https://mhealth.jmir.org/2025/1/e60708>

Digital meditation to target employee stress: A randomized clinical trial

Importance: Mindfulness meditation may improve well-being among employees; however, effects of digital meditation programs are poorly understood. **Objective:** To evaluate the effects of digital meditation vs a waiting list condition on general and work-specific stress and whether greater engagement in the intervention moderates these effects. **Design, setting, and participants:** This randomized clinical trial included a volunteer sample of adults (aged ≥ 18 years) employed at a large academic medical center who reported mild to moderate stress, had regular access to a web-connected device, and were fluent in English. Exclusion criteria included being a regular meditator. Participants were recruited from May 16, 2018, through September 28, 2019, and completed baseline, 8-week, and 4-month measures assessing stress, job strain, burnout, work engagement, mindfulness, depression, and anxiety. Data were analyzed from March 2023 to October 2024. **Intervention:** Participants were randomized 1:1 to a digital meditation program or the waiting list control condition. Participants in the intervention group were instructed to complete 10 minutes of meditation per day for 8 weeks. The control group was instructed to continue their normal activities and not add any meditation during the study period. **Main outcomes and measures:** The primary outcome measure was change in Perceived Stress Scale (PSS) score at 8 weeks. Secondary outcome

measures included changes in job strain, measured as work effort-reward imbalance. **Results:** A total of 1458 participants (mean [SD] age, 35.54 [10.30] years; 1178 [80.80%] female) were included. Those randomized to meditation (n = 728) vs waiting list (n = 730) showed improvements in PSS (Cohen d, 0.85; 95% CI, 0.73-0.96) and in all secondary outcome measures (eg, job strain: Cohen d, 0.34; 95% CI, 0.23-0.46) at 8 weeks. These improvements were maintained at 4 months after randomization (PSS: Cohen d, 0.71; 95% CI, 0.59-0.84; job strain: Cohen d, 0.37; 95% CI, 0.25-0.50). Those using the app from 5 to 9.9 min/d vs less than 5 min/d showed greater reduction in stress (mean PSS score difference, -6.58; 95% CI, -7.44 to -5.73). **Conclusions and relevance:** The findings suggest that a brief, digital mindfulness-based program is an easily accessible and scalable method for reducing perceptions of stress. Future work should seek to clarify mechanisms by which such interventions contribute to improvements in work-specific well-being.

Radin et al. 2025.

JAMA Network, vol. 8, no. 1.

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(<https://creativecommons.org/licenses/by-nc/4.0/>)

Keywords: Digital meditation; stress; employee.

Evidence Level: 2B

Link: <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2829186>

From unknown to familiar: An exploratory longitudinal field study on occupational exoskeletons adoption

Occupational exoskeletons hold promise in preventing musculoskeletal disorders, but their effectiveness relies on their long-term use by workers. This study aims to characterize the adoption process of occupational exoskeletons by analyzing the experiences of 25 operators. Using a mixed-methods approach, both quantitative and qualitative data were collected before and during a four-week familiarization period. We primarily focused on users' expectations, subjective assessments over time, and initial experiences. Findings elucidate shifts in operators' perceptions of the devices over time. Through their narratives, we highlight how exoskeleton use impact operators' movements and the subsequent adaptations. Operators demonstrated diverse exploratory behaviors, indicating their efforts to get to grips with the effects of exoskeletons in their own ways. This study offers insights into the initial stages of occupational exoskeleton adoption, thus enriching our comprehension of rejection patterns and pathways toward their widespread acceptance.

Dufraisse et al. 2025.

Applied Ergonomics, vol. 122.

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(<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Keywords: Acceptance; human-exoskeleton interaction; implementation science; long-term user experience.

Evidence Level: 5B

Link: <https://www.sciencedirect.com/science/article/pii/S0003687024001704?via%3Dihub>

Work Environment

Health literacy and psychological wellbeing of employees working from home in Germany-online survey results

Employees' psychological wellbeing is of special interest to employers, as mental illnesses are still the second most common reason for work absences. The psychological wellbeing of employees is determined by factors at an individual, interpersonal and organizational level. Health literacy encompasses both the individual and the organizational level and thus offers a good concept against the background of employees' psychological wellbeing. Furthermore, demographic change increases skills shortages, while recently, other working models, such as increasing home office arrangements, benefit and challenge both employees and employers. Therefore, this study examines the associations between individual and organizational health literacy, work-from-home culture, and the psychological wellbeing of employees who

mainly work from home. An anonymous open online survey via Facebook and Instagram advertisements was conducted in June 2023 in Germany. The questionnaire included nine thematic groups with validated and nonvalidated scales (e.g. WHO-5 Wellbeing-Index). Data from 103 participants were suitable for data analyses in IBM SPSS Statistics 23. Of the participating employees, 17% were assigned to males and 83% to females. The mean age was 49.5 years. Individual and organizational health literacy and work-from-home culture were positively associated with employees' psychological wellbeing. Organizational health literacy mediated the effect of individual health literacy on employees' psychological wellbeing. Individual and organizational health literacy totally mediated the impact of work-from-home culture. The study results highlight that individual and organizational health literacy provide useful concepts for practitioners and researchers regarding the psychological wellbeing of employees working from home and that both might play a crucial role in mediating the effect of organizational culture aspects on employees' psychological wellbeing.

Kleist et al. 2025.

Health Promotion International, vol. 40, no. 1.

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Keywords: Employee health; home office; mental health; organizational health literacy; work-related health literacy.

Evidence Level: 5B

Link: <https://academic.oup.com/heapro/article/40/1/daae202/7959145?login=false>

Gender and remote work: Associations between mental health and hours of remote work and housework

To investigate the association between hours of remote work (RWHs) and housework (HWHs), independently, as well as the combined total of work hours (WHs), with gender and mental health of remote workers during the COVID-19 pandemic. Cross-sectional study with data from the ELSA-Brasil (N = 2,318). On average, women reported more time spent on HWHs and WHs than men, while no difference was found in RWHs. Depression, anxiety and stress were more prevalent among women. Women with longer working hours (RWHs, HWHs and WHs) had higher odds of displaying anxiety or stress symptoms than men with shorter working hours. For symptoms of depression, the highest odds ratios were found only among those women with medium or long HWHs and long WHs. A gender perspective into studies of remote work effects has contributed to the recognition of health inequalities between men and women.

Silva-Costa et al. 2025.

Cien Saude Colet, vol. 30, no. 1.

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Keywords: Gender; remote work; mental health; housework.

Evidence Level: 4B

Link: <https://www.scielo.br/j/csc/a/7fFDNmfdScXBWXktHbBBsCQ/?lang=en>

Association of remote work with tobacco and alcohol use: A cross-sectional study in Japan

Background: Remote work allows one to work free from workplace policy, but it may negatively affect health-related behaviors such as tobacco product use and alcohol drinking. Our study aimed to investigate the association of remote work with tobacco dependence and hazardous alcohol use. **Methods:** This nationwide Internet-based survey was conducted in Japan in February 2023. Using the data of 8,292 workers aged 18 - 64, frequency of remote work (0, < 1, ≥ 1 day per week), tobacco dependence based on the scores of the Tobacco Dependence Screener ≥ 5, hazardous alcohol use based on the scores of the Alcohol Use Disorders Identification Test ≥ 8 were assessed. Then, the associations of frequency of remote work with tobacco dependence and hazardous alcohol use were examined using a multivariable Poisson regression model. **Results:** The percentages of remote work 0, < 1, ≥ 1 day per week were 56.6%, 9.9%, and 33.5%, respectively, whereas those of tobacco dependency and hazardous alcohol use were 11.3% and 17.9%, respectively. Remote work < 1 day per week (adjusted prevalence ratio [aPR] 1.30, 95%CI 1.07 - 1.57), and ≥ 1 per week (aPR 1.29, 95%CI 1.13 - 1.47) were associated with tobacco dependence. Further, remote work < 1 day per week (aPR 1.43, 95%CI 1.25 - 1.65), and ≥ 1 per week (aPR 1.40, 95%CI 1.27 - 1.55)

were associated with hazardous alcohol use. **Conclusions:** Remote workers showed higher prevalence of tobacco dependence and hazardous alcohol use. The health behavior of remote workers should be carefully monitored.

Sonoda et al. 2025.

BMC Public Health, vol. 25, no. 1.

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Keywords: Alcohol dependence; alcohol use disorder; COVID-19; nicotine dependence; remote work; tobacco dependence.

Evidence Level: 4B

Link: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-21066-8>