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Workplace Research Monthly

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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 September 2026 only

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Methodology

Search

Open access, English language article abstracts related to the broad Work, Health and Safety and Rehabilitation/Return To Work themes of Enabling Healthy & Safe Workplaces, Enhancing Employer Capability, Fostering Work Participation, Promoting Mental Health and Adapting to the Future of Work, published in the preceding month are sourced from PubMed© , Emcare©, Ergonomic Abstracts© and Psychinfo© databases at the start of the month. Results are screened, critically reviewed in terms of level of evidence and relevance to an Australian context, and collated.

Description of Evidence Levels Definitions Used in this Review

Articles are arranged from highest to lowest quality based on levels of evidence and relevance, as outlined in table 1 and 2.

1. **Level of Evidence** –Comcare does not conduct critical evaluations of the articles listed in the Workplace Research Monthly, however, certain study designs are scientifically stronger at answering a question. The scoring hierarchy used 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 randomised controlled trial.
Level 3	Evidence from a controlled intervention trial without randomisation (i.e. quasi-experimental).
Level 4	Evidence from a case-control or cohort study.
Level 5	Evidence from a single case study, a case series, or qualitative study.
Level 6	Evidence from opinion pieces, reports of expert committees and/or from 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

Increasing topical sunscreen use in German outdoor workers: Results of a non-randomised controlled intervention study

Background: Occupational exposure to solar ultraviolet radiation (UVR) is a major environmental risk factor for skin cancer. Outdoor workers accumulate high lifetime UVR exposure and therefore face an increased risk of developing actinic keratoses and skin cancer. Despite established recommendations for sun protection, adherence among outdoor workers remains low. Improving access to sunscreen and providing targeted health education may help reduce barriers to sun-protective behaviour among outdoor workers. Therefore, this study evaluated the effectiveness of a workplace intervention designed to increase sunscreen use among outdoor workers. **Methods**: A non-randomised controlled intervention study was conducted among outdoor workers in Germany during one sun-exposure season (April-September 2025). Participants were assigned to either an intervention group or a control group. The intervention consisted of facilitated access to different sunscreen products combined with a brief structured health education on UVR risks and correct sunscreen use. Sunscreen use and sunburn occurrence were assessed using a questionnaire at baseline (T0), after three months (T1), and after six months (T2). The primary outcome was the proportion of workers reporting sunscreen use at least "sometimes". Longitudinal changes were analysed using generalised linear mixed models. **Results**: A total of 234 outdoor workers were enrolled, with 117 participants in each group. After six months, 97 participants in the intervention group and 86 in the control group completed the study. At baseline, 54.7% of participants in both groups reported sunscreen use in general at least sometimes. At T2, this proportion increased to 83.5% in the intervention group compared with 52.3% in the control group. The number of reported sunburns decreased over time in both groups, with a stronger reduction observed in the intervention group; however, the group × time interaction did not reach statistical significance. **Conclusions**: A simple workplace intervention consisting of facilitated sunscreen provision and brief health education was associated with a substantial increase in sunscreen use over the six-month follow-up period. This low-threshold approach represents a feasible and scalable strategy for occupational skin cancer prevention.

Dick et al. 2026.
BMC Public Health, vol. 26, no. 1.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Health education; occupational sun exposure; outdoor workers; skin cancer prevention; sunscreen use; workplace intervention.
Evidence Level: 3B
Link: https://link.springer.com/article/10.1186/s12889-026-29422-6

Technostress and insulin resistance risk: A cross-sectional analysis of 104,175 Spanish workers using TyG, TyG-BMI, METS-IR, and SPISE indices

Background: Technostress has emerged as a growing occupational health concern in increasingly digitalized workplaces. Although its psychological consequences have been extensively investigated, little is known about its potential association with metabolic health and insulin resistance. This study aimed to evaluate the relationship between technostress and insulin resistance risk using four validated surrogate markers in a large cohort of Spanish workers. **Methods**: A cross-sectional study was conducted among 104,175 Spanish workers who underwent routine occupational health assessments. Technostress was assessed using a 15-item questionnaire covering five technostress dimensions and was analyzed using four operational categories (low, moderate, high, and very high). Insulin resistance risk was assessed using the triglyceride-glucose (TyG) index, TyG-body mass index (TyG-BMI), the metabolic score for insulin resistance (METS-IR), and the single-point insulin sensitivity estimator (SPISE). Sociodemographic characteristics, lifestyle habits, anthropometric measurements, and biochemical parameters were also recorded. Modified Poisson regression with robust variance estimation was used to estimate crude and adjusted prevalence ratios (PRs) for increased insulin resistance risk according to technostress level. Firth penalized logistic regression was additionally performed as a sensitivity analysis to address sparse-data bias and separation.

Results: Higher technostress levels were associated with progressively less favorable anthropometric and metabolic profiles. The prevalence of increased insulin resistance risk rose significantly across technostress categories for all markers evaluated ($p < 0.001$). For TyG, prevalence increased from 3.8% in the low technostress group to 54.3% in the very high technostress group. Corresponding increases were observed for TyG-BMI (0.2% to 78.2%), METS-IR (0.0% to 45.2%), and elevated SPISE-IR values (0.0% to 57.5%). After adjustment for age, sex, educational level, physical activity, adherence to the Mediterranean diet, and smoking status, higher technostress remained associated with a higher prevalence of increased insulin resistance risk. A clear graded cross-sectional pattern was observed, with the strongest associations found among workers reporting very high technostress. **Conclusions**: Higher technostress was associated with a higher prevalence of increased insulin resistance risk according to TyG, the primary outcome, with a clear graded cross-sectional pattern across technostress categories. Associations were also observed for the secondary BMI-containing indices (TyG-BMI, METS-IR, and SPISE-IR), which should be interpreted as complementary rather than independent evidence. Given the cross-sectional design and the pronounced clustering of technostress with adiposity and lifestyle characteristics, residual confounding cannot be excluded and causal inference is not possible.

González Rivas et al. 2026.

Medical Sciences, vol. 14, no. 5.

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Keywords: Insulin resistance; metabolic score for insulin resistance (METS-IR); occupational health; single-point insulin sensitivity estimator (SPISE); technostress; triglyceride–glucose (TyG) index; triglyceride–glucose body mass index (TyG-BMI).

Evidence Level: 4B

Link: https://www.mdpi.com/2076-3271/14/5/545

Work Health and Safety

Understanding susceptibility to inattentional deafness in safety-critical environments

Introduction: Dynamic occupational environments, such as construction sites, present workers with frequent changes, some of which pose serious risk. Workers are expected to detect and respond to these changes using sensory cues, including auditory warnings intentionally designed to draw attention to hazardous conditions. However, these cues often compete with high cognitive load, which can result in missed warning sounds, a phenomenon known as inattentional deafness. This study examines susceptibility to inattentional deafness during a simulated construction task. **Method**: Data were collected from 136 participants, including 72 individuals and 64 participants who worked in 32 pairs. All participants completed a mechanical-electrical assembly in a controlled laboratory environment with continuous construction noise. Before the task, participants received a brief pre-job-style briefing instructing them to stop work and move to a designated safety zone upon hearing any sound that could indicate hazardous energy. During the task, participants were randomly assigned to hear either an Air Horn or a Hissing cue and to work individually or collaboratively. Each participant (or pair) received three successive bursts of the assigned cue at 81, 83, and 85 dB presented at random intervals. **Results**: Overall detection was 62%, with individuals detecting 58%, while pairs detected 71%. Sound type was the strongest determinant of noticeability, as the Air Horn was detected significantly more often than the Hissing cue. Increasing volume produced modest improvements in detection, and pair collaboration was beneficial, although the improvement did not fully align with probabilistic expectations of redundancy. Human factors such as fatigue, emotional state, and perceived task difficulty did not significantly predict detection. **Conclusions and practical applications**: These findings underscore the importance of highly distinguishable auditory warnings and system-level designs that account for the inherent limitations of human attention in safety-critical work environments.

Oladejo et al. 2026.

Journal of Safety Research, vol. 98.

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Keywords: Auditory salience; inattentional deafness; safety.
Evidence Level: 3B
Link: https://www.sciencedirect.com/science/article/pii/S0022437526001507?via%3Dihub

Investigating the effects of back-support exoskeletons on work posture: An automated AI-based NIOSH measurement using YOLO

Work-related musculoskeletal disorders (WMSDs) are prevalent among masons with 58% reporting lower back pain from repetitive lifting and sustained trunk flexion. Back-support exoskeletons (BSEs) reduce muscle activation and claim to improve posture, yet evidence of their effectiveness in improving posture remains limited. This study investigated whether BSEs improve posture among 23 experienced masons performing masonry tasks, comparing rigid and soft designs. Participants lifted 17.2 kg concrete masonry units with and without exoskeletons. Using YOLO v11 pose estimation to analyze 351,615 video frames, trunk flexion and lateral bend angles were calculated against NIOSH thresholds. Results revealed minimal improvements. Mean trunk flexion reductions of 1.28° and 0.75° were reported, representing only 4.3% and 2.5% reduction in NIOSH risk categories. While BSEs reduce muscle activity, their effectiveness in improving posture is limited. This challenges BSE deployment as intervention for postural correction in masonry work.
Al-Khiami et al. 2026.
Applied Ergonomics, vol. 135.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Computer vision; construction; deep learning; ergonomics; laboratory testing; laborer; pose estimation; work-related musculoskeletal disorder.
Evidence Level: 3B
Link: https://www.sciencedirect.com/science/article/pii/S000368702600044X?via%3Dihub

Outdoor work as risk factor for facial melanoma: UV exposure, risk awareness, and occupational relevance

Background: This study explored UV exposure and prevention behaviors among melanoma patients, focusing on occupational UV exposure, melanoma characteristics, risk awareness, and protective behaviors. **Patients and methods:** This cross-sectional study analyzed demographics, melanoma characteristics, UV exposure, awareness, and preventive measures. Data were stratified by occupational exposure (indoor vs. outdoor) and analyzed using logistic regression to identify predictors for melanoma location. **Results**: Among 406 patients (54% female; median age 57), 59 (15%) had a history of outdoor work. Outdoor workers were more likely to develop melanoma in sun-exposed areas. They also had a higher prevalence of facial melanoma (p = 0.020); those with facial involvement had worked outdoors twice as long as those with melanoma at other sites, indicating a dose-effect relationship. Logistic regression identified outdoor work (OR 2.47) and age (OR 1.05) as significant predictors of facial melanoma. A total of 229 patients (57%) were unaware of the potential harms of UV radiation before diagnosis. Among outdoor workers, only 3 (5%) reported frequent sun protection, while 33 (56%) used it rarely or never. **Conclusions**: Outdoor work is a significant risk factor for facial melanoma in this cohort. Sun protection and UV awareness remain insufficient, particularly among outdoor workers, highlighting the need for targeted prevention.
Dugas-Breit et al. 2026.
Journal der Deutschen Dermatologischen Gesellschaft (JDDG), vol. 24, no. 9.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Melanoma; occupational UV exposure; preventive measures; risk awareness.
Evidence Level: 4B
Link: https://onlinelibrary.wiley.com/doi/10.1111/ddg.15995

Prevalence and occupational risk factors of dry eye symptoms among Chinese healthcare workers: A cross-sectional study and management implications

Healthcare workers (HCWs) in China are at a high risk of self-reported dry eye symptoms due to occupational exposures, yet population-based epidemiological data on this issue among Chinese HCWs remain scarce. This multicenter cross-sectional study aimed to quantify the prevalence of frequent dry eye

symptoms, their diagnostic status, and independent occupational risk factors among Chinese HCWs. From September 2024 to December 2025, 269 active HCWs from 5 tertiary hospitals in Guangdong completed anonymous questionnaires covering demographics, occupational/lifestyle factors, and ocular symptoms. Multivariate logistic regression identified independent risk factors for frequent dry eye symptoms (≥3 times/wk). The prevalence of frequent dry eye symptoms among participants (mean age = 38.5 ± 8.2 years, 59.9% female, 74.4% were physicians) was 54.3%, but only 6.3% had a formal clinical diagnosis. Daily screen time of 7 hours or more emerged as the strongest modifiable risk factor (odds ratio [OR] = 2.31, P = .005). Other independent risk factors included perceived dry work environment (OR = 1.98), frequent night work (OR = 2.15), and myopia (OR = 1.89; all P < .01). A striking gap between knowledge, belief, and behavior was observed: 92.2% recognized screen-use risks, yet only 2.6% performed regular eye exercises. Chinese HCWs face a high burden of frequent dry eye symptoms, which remain severely underdiagnosed. The identified screen-time threshold (≥7 hours/d) is lower than conventional occupational health recommendations and should be considered a modifiable target for intervention. Importantly, current occupational health checkups for HCWs lack ocular surface screening, representing a systemic gap. Given that data were collected in the post-pandemic era (2024-2025), our findings likely reflect the new normal of digitally intensive healthcare work. Workplace-oriented interventions - such as incorporating symptom screening into annual exams, electronic medical record rest reminders, and eye care training - are urgently needed to bridge the awareness-behavior gap and protect HCWs' ocular health. Our findings are based on self-reported symptoms rather than clinical diagnosis, highlighting the need for objective screening in routine occupational health checkups.

Zhang et al. 2026.

Medicine, vol. 105, no. 38.

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Keywords: Cross-sectional study; healthcare workers; occupational dry eye symptoms; occupational health management; prevalence; risk factors.

Evidence Level: 4B

Link: https://www.ovid.com/jnls/md-journal/fulltext/10.1097/md.0000000000050659~prevalence-and-occupational-risk-factors-of-dry-eye-symptoms

Trends in occupational fall incidence in Japan, 2014-2021: A nationwide study

Background: The incidence of occupational falls in Japan increased 9% over the past decade from 2014 to 2021. Occupational falls are increasing in aging workforces; however, surveillance systems rely largely on crude incidence rates that do not account for demographic changes over time. We estimated age standardized and age-sex standardized incidence rates of occupational falls in Japan and examined temporal trends across industries from 2014 to 2021. **Methods**: We conducted a population-based study using nationwide administrative data. Incident cases of occupational falls were obtained from the Reports of Occupational Accidents and Diseases. Annual workforce populations were estimated from the Labour Force Survey using survey weights. Age standardized and age-sex standardized incidence rates per 100,000 employees were calculated using the 2015 workforce population as the standard. **Results**: A total of 234,711 incident cases of occupational falls were documented between 2014 and 2021. Crude incidence rates increased over time. From 2016 onwards, age standardized rates were lower than crude rates across all industries, reflecting changes in workforce age structure. Additional sex standardization further attenuated temporal patterns, highlighting the influence of workforce sex composition on observed trends. The attenuation after age-sex standardization was most pronounced in the medical, health care, and welfare industry. **Conclusions**: Changes in workforce age and sex structure substantially influenced temporal patterns of occupational falls. Age-sex standardized incidence rates provide a more appropriate indicator for monitoring occupational fall risk in aging and increasingly gender-diverse labor forces.

Watanabe et al. 2026.

Journal of Safety Research, vol. 98.

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Keywords: Incidence; injury surveillance; occupational falls; standardization; time trends; workplace.

Evidence Level: 4B

Link: https://www.sciencedirect.com/science/article/pii/S002243752600126X?via%3Dihub

Exploring end-user acceptance of half-mask powered air-purifying respirators (PAPRs)

To protect workers from airborne contaminants, respiratory protection is essential across various occupational settings. In recent years, half-mask powered air-purifying respirators (PAPRs) have been introduced in the Australian quarrying industry, reflecting advancements in personal protective equipment technology. To support effective uptake and use, it is critical to understand end-user experiences. This study applied the Unified Theory of Acceptance and Use of Technology framework to explore key barriers and facilitators of half-mask PAPR use and generate recommendations for improving design and implementation. A qualitative approach was employed across two quarry sites where half-mask PAPRs were in use. Participants (n = 23), including workers, managers, and supervisors, took part in interviews and focus groups. Findings indicate that user experiences aligned closely with all four constructs of the Unified Theory of Acceptance and Use of Technology framework (performance expectancy, effort expectancy, social influence, and facilitating conditions). Barriers included communication difficulties, physical discomfort, and inconsistent workplace implementation. Facilitators included perceived safety benefits, ease of use, and supervisory support. These insights offer practical guidance for supporting half-mask PAPR implementation in similar organisational contexts. Findings highlight the importance of system-level implementation strategies, such as consistent policy enforcement and supervisor-led support, to support uptake and the integration of half-mask PAPR devices in high-risk work environments.

Irwin et al. 2026.

Applied Ergonomics, vol. 135.

User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*

Keywords: Powered air-purifying respirator; respiratory protection; technology acceptance; UTAUT

Evidence Level: 5A

Link: https://www.sciencedirect.com/science/article/pii/S0003687026000542?via%3Dihub

Leveraging wearables to safeguard workers in a hotter climate

Rises in global temperatures have threatened the health, safety, and productivity of workers who perform physically demanding work. Traditionally, occupational heat illness prevention plan have relied on environmental monitoring and administrative controls, however, these approaches do not account for the considerable intra- and inter-variability in physiological responses to extreme heat. In contrast, elite sport has served as a valuable test bed for investigating thermoregulation, exertional heat illness, and the feasibility of real-time physiological monitoring. Experiences from recent Olympic Games have demonstrated that integrated environmental and physiological monitoring systems can operate at scale under extreme heat conditions, while also highlighting important technological, operational, and governance limitations. Translating these advances to occupational settings presents both opportunities and challenges because workers differ substantially from athletes in age, health status, heat acclimatisation, work demands, exposure duration, and access to medical oversight. Furthermore, implementation is complicated by concerns regarding data governance, privacy, informed consent, device validity, interpretation of physiological information, and the use of physiological thresholds to guide workplace decisions. This commentary examines lessons learned from elite sport and discusses their application to occupational heat safety programs. We propose a tiered adoption framework that aligns physiological monitoring complexity with organizational capacity, technical expertise, and governance requirements, ranging from foundational heat-safety practices to advanced multimodal physiological monitoring under professional oversight. Physiological monitoring should complement, but not replace, established heat-stress prevention strategies and be implemented within clearly defined operational and ethical boundaries. Future research should focus on validating wearable technologies in occupational environments, developing individualized decision frameworks, and establishing governance structures that support responsible implementation.

Morrissey et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Athlete safety; climate change; heat stress; occupational heat exposure; physiological monitoring.
Evidence Level: 6B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1867796/full

Ergonomics

Standing work and low back pain: An experimental analysis of risk factors

Background: Standing work is common across a wide range of industries and service sectors and has been associated with the development of low back pain. **Objective**: To analyze changes in low back pain across eight experimental scenarios combining exposure to risk factors associated with standing work. **Methodology**: A controlled factorial experiment (23) comprising eight experimental scenarios and 32 simulations. Thirty volunteers (16 men and 14 women) participated in the study. Each participant completed an experimental scenario involving light manual activity in a standing position for 120 min, varying posture (dynamic or static), surface (hard or soft), and the use of insoles (with or without inserts). Every 30 min, low back pain intensity was recorded using a Visual Analog Scale (0 mm = no pain; 100 mm = maximum pain). **Results**: Time had a significant effect on increases in low back pain relative to baseline (T0 = 1.71, SE = 0.34). The estimated increases in low back pain from baseline were 1.41 at (T1), 2.38 at (T2), 3.07 at (T3), and 3.66 at (T4), all of which were statistically significant ($p < 0.001$). **Conclusions**: Low back pain intensity increased significantly and similarly across all experimental scenarios, regardless of the combination of factors evaluated (posture, surface, or insole use). The results indicate that low back pain, as the starting point of clinical pain perception (≥ 9 mm VAS), manifests itself after 60 min of standing, regardless of the combined study factors.
Osorio-Vasco et al. 2026.
WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 85, no. 1.
User License: *Creative Commons - Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/)*
Keywords: Ergonomics; musculoskeletal disorders; occupational health; physical demands/Exposure analysis; safety and health; work analysis and design.
Evidence Level: 3B
Link: https://journals.sagepub.com/doi/full/10.1177/10519815261438027

Operational tactical uniforms promote body schema underestimation and musculoskeletal discomfort in Brazilian male special operations police officers

Background: Tactical police officers are routinely exposed to high occupational demands and external load carriage resulting from operational uniforms and personal protective equipment (PPE). Although PPE is essential for operational safety, its effects on body schema perception and musculoskeletal discomfort remain poorly understood in elite police populations. **Objective**: To investigate the effects of operational uniforms and PPE on body schema perception and musculoskeletal discomfort in special operations police officers. **Methods**: Fifteen police officers were evaluated under two experimental conditions, physical training uniform (PTU) and operational uniform with PPE (OU). Musculoskeletal discomfort was assessed using the Corlett and Manenica Body Map, while body schema perception was evaluated using the Image Marking Procedure and Body Perception Index (BPI). **Results**: military officers age was 37.57 ± 6.08 years, time service of 13.33 ± 5.99 years and elevated body mass index 28.49 ± 3.60 kg/m2. An additional load of 14.79 ± 1.83 kg Operational uniforms increased external body load and significantly elevated musculoskeletal discomfort scores across most body regions ($p < 0.05$). In addition, body schema perception significantly decreased under the operational condition, demonstrating body dimension underestimation and predominance of hypo-schematism. **Conclusion**: Operational uniforms and PPE promoted increased musculoskeletal discomfort and altered body schema perception in tactical police officers, potentially affecting occupational safety and operational performance.
Rica et al. 2026.
Frontiers in Public Health, vol. 14.
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Keywords: Body perception; ergonomics; musculoskeletal disorders; personal protective equipment; police officers.
Evidence Level: 3B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1899955/full

Beyond visual comfort: Comparing pupillometry and subjective measures of cognitive strain in workplace lighting

Introduction: This study evaluated the discriminative sensitivity of pupillometry, relative to subjective self-report measures, as an objective indicator of cognitive load during screen-based tasks performed under two workplace illuminance levels (300 and 500 lux). Inadequate workplace illuminance is associated with visual fatigue, stress, and impaired attention, yet its effect on cognitive strain during screen-based tasks remains underexplored through objective physiological indicators, particularly given the confounding influence of the pupillary light reflex (PLR) on pupillometric measures. **Methods**: Forty-eight working-age adults performed writing and working memory (N-back) tasks under both conditions in a controlled laboratory replicating office environments; pupil diameter was recorded continuously using Pupil Labs Core eye-tracking glasses, while the NASA-TLX and Visual Analog Scales (VAS) assessed subjective workload, stress, fatigue, and eye strain. **Results**: A direct comparison between illuminance conditions (Holm-corrected) revealed no significant effects of illuminance on pupillary parameters ($|d| \leq 0.19$), but subjective workload increased with illuminance during the most demanding task ($d = 0.81$). Both pupillometry and subjective measures detected significant pairwise differences between task demand levels consistently under both illuminance conditions (Kendall's W ranging from 0.29-0.35 for pupil diameter variance to 0.34-0.58 for NASA-TLX and VAS Stress). No significant differences were found for the writing task or the 2-back task across any measure. **Discussion**: The results indicate that pupillometry and subjective self-report measures are comparably sensitive to task demand, while only subjective workload was sensitive to illuminance, underscoring the value of combining objective and subjective indicators in occupational lighting research.
Ferreira et al. 2026.
Frontiers in Public Health, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Cognitive load; ergonomics; illuminance; occupational health; screen-based tasks.
Evidence Level: 3B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1875100/full

Chronic Health Issues

Prevalence and risk factors of hearing disorders among working populations: A systematic review

Introduction: This systematic review aimed to determine the prevalence of different subtypes of hearing disorders (hearing loss, noise-induced hearing loss, hearing impairment, and standard threshold shift) as well as to identify the risk factors associated with hearing disorders in working populations. **Methods**: A systematic search was conducted in PubMed, Scopus and Web of Science for English-language studies published from 2016 to 2025. Eligible studies included studies that were conducted among worker populations and those reported prevalence and/or risk factors of hearing disorders. Extracted data include study countries, industrial sectors, subtypes of hearing disorders, assessment tools for hearing disorders, prevalence (or incidence) estimates, and risk factors. Commonly reported risk factors were identified through descriptive analysis and van Tulder's criteria. **Results**: Among the 47 studies included, the prevalence of hearing loss, NIHL, and hearing impairment ranged from 3.8%-73.5%, 0.2%-63.6%, and 2.7%-71.2%, respectively. The prevalence of STS was 50.0%. There were 89 risk factors of hearing disorders, across eight domains, namely medical conditions (25 risk factors), work-related (18 risk factors), noise-related (13 risk factors), lifestyle (12 risk factors), sociodemographic characteristics (8 risk factors), HPD-related (5 risk factors), exposure to other occupational hazards (4 risk factors), and knowledge-related (4 risk factors). Among these 89 risk factors, only noise exposure and previous smoking showed consistent associations with hearing disorders. **Conclusion**: The prevalence of hearing loss varied widely. Among the

89 reported risk factors (across eight domains) of hearing disorders, only noise exposure and previous smoking showed consistent associations with hearing disorders.
Ismail et al. 2026.
American Journal of Otolaryngology, vol. 47, no. 5.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Factor; hearing problem; occupation; prevalence.
Evidence Level: 1A
Link: https://www.sciencedirect.com/science/article/pii/S0196070926001432?via%3Dihub

Work participation among Australians with diagnosed type 2 diabetes mellitus

Aims: To examine longitudinal associations between type 2 diabetes mellitus (T2DM) and work participation among Australians. **Methods**: Adults (≥18 years) from the Household, Income and Labour Dynamics in Australia Survey were followed from 2013 to 2017 and 2021. The exposure was T2DM status: prevalent (T2DM at baseline and follow-up), incident (no diabetes at baseline; T2DM at follow-up), or no diabetes. Outcomes were changes in work participation (transition out of or into employment) and patterns of weekly working hours (including persistent non-employment). Survey-weighted Poisson regression estimated adjusted incidence rate ratios (IRR); group-based trajectory modelling examined working hours patterns. **Results**: Over four years, prevalent (adjusted IRR 1.57, 95%CI 1.09-2.25) and incident T2DM (adjusted IRR 1.59, 95%CI 1.12-2.25) were associated with transition out of employment, and incident T2DM with reduced transition into employment (adjusted IRR 0.22, 95%CI 0.09-0.56). These associations were no longer significant over eight years of follow-up. Prevalent T2DM was associated with persistent non-employment (adjusted odds ratio 2.04, 95%CI 1.44-2.88), and incident T2DM with lower odds of increasing working hours (adjusted odds ratio 0.44, 95%CI 0.22-0.88). **Conclusions**: T2DM is associated with reduced work participation, particularly immediately following diagnosis, highlighting the importance of early, targeted workplace support.
Tomic et al. 2026.
Diabetes Research and Clinical Practice, vol. 239.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Employment; longitudinal studies; occupational health; type 2 diabetes mellitus; work participation.
Evidence Level: 4A
Link: https://www.diabetesresearchclinicalpractice.com/article/S0168-8227(26)00371-2/fulltext

Estimating work-related indirect costs in allergic rhinitis and asthma using a Daily Combined Symptom-Medication Score: A MASK-air Study in collaboration with the EAACI Methodology Committee

Background: Allergic rhinitis and asthma can impair work productivity. **Objective**: To validate a daily work productivity visual analogue scale (VAS work), comparing it with the Work Productivity and Activity Impairment questionnaire plus Classroom Impairment Questions: Allergy Specific (WPAI+CIQ:AS) and also to quantify how allergy control relates to work impairment and indirect costs. **Methods**: We conducted a cross-sectional study using data from the MASK-air app. Patients recorded daily VAS and weekly WPAI+CIQ:AS responses. We calculated correlations between VAS work and WPAI+CIQ:AS outcomes. Mixed-effects regression models assessed associations between disease control, measured by the Combined Symptom-Medication Score (CSMS) and the electronic daily asthma control score (e-DASTHMA), and VAS work. Indirect costs were estimated using the human capital approach, applying VAS-based productivity losses to country-specific wage distributions. **Results**: VAS work correlated strongly with the WPAI+CIQ:AS, with Spearman coefficients 0.70 or higher for total work impairment and presenteeism. Each 1-point increase in CSMS and e-DASTHMA was associated with mean 0.97- and 0.79-point increases in VAS work, respectively. On poorly controlled days, the estimated daily indirect cost based on CSMS ranged from US $12.50 purchasing power parities (PPP) (P25-P75, 5.60-26.70) in Brazil to US $129.90 PPP (P25-P75, 80.40-199.40) in Iceland. Based on e-DASTHMA, daily estimates ranged from US $9.30 PPP (P25-P75, 3.70-21.50) in Brazil to US $101.90 PPP (P25-P75, 51.20-172.40) in Iceland. **Conclusions**: VAS work is a valid

simple daily measure of work impairment due to rhinitis and asthma. CSMS and e-DASTHMA can be used to estimate productivity losses attributable to poor disease control.
Vieira et al. 2026.
The Journal of Allergy and Clinical Immunology: In Practice, vol. 14, no. 9.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Allergic rhinitis; asthma; health economics; work productivity; mhealth.
Evidence Level: 4B
Link: https://www.jaci-inpractice.org/article/S2213-2198(26)00497-6/fulltext

Migraine and work-disability: New treatments reduce work-related burden among migraine population

Background: Migraine's economic burden is mostly due to reduced work productivity, which is underestimated by commonly used patient-reported outcome measures (PROMs). In this prospective, multicentric, real-world study, we used the HEADWORK questionnaire (HWq), a disease-specific work-related PROM, to assess the impact of anti-calcitonin gene receptor peptide (anti-CGRP) monoclonal antibodies (mAbs) on work-related limitations. **Methods**: Migraine patients eligible for treatment with anti-CGRP mAbs were enrolled from three headache centers: IRCCS C.Besta, Mondino Foundation and Policlinico Campus Bio-Medico. Migraine days per month (MMDs), monthly acute medications (MAMs), and HWq were collected every 3 months up to 12 months of follow-up. A GLM design was used to address change in HWq scales' score (primary endpoint), MAMs and MMDs; we also tested whether change in HWq differed across responders' group and defined minimum clinically important difference (MCID) for HWq. **Results**: Out of 175 patients (130 females, mean age 48.9 ± 8.8) 152 completed the study. Among them: 37 (24.3%) were non-responders, 69 (45.4%) were responders, and 46 (30.3%) were super-responders. A reduction in all endpoints was observed since the first 3 months of treatment and maintained up to 12-month follow-up. Time*group interaction showed a superior effect, both in HWq scales and MAMs, with super-responders achieving the best outcome. **Conclusions**: A significant reduction in MMDs and MAMs and an improvement in both HWq scales in patients under mAbs treatment was found from the 3-month follow-up onwards. The positive impact on work-related disability should be taken into consideration in planning cost-effectiveness evaluations and drug policy strategy.
Montisano et al. 2026.
European Journal of Neurology, vol. 33, no. 9.
User License: *Creative Commons - Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/)*
Keywords: Anti-CGRP; burden; mAbs; migraine; work disability.
Evidence Level: 4B
Link: https://onlinelibrary.wiley.com/doi/10.1111/ene.70738

Occupational Exposure

Exposure to cement industry emissions and respiratory health outcomes: A global systematic review and meta-analysis from 2000 to 2025

Introduction: Cement manufacturing is a major contributor to industrial air pollution and releases particulate matter and toxic emissions, adversely affecting the respiratory health. Previous studies have reported respiratory impairment and its associated symptoms among exposed populations, yet the evidence remains inconsistent across occupational and residential settings. This systematic review and meta-analysis is aimed to quantify the association between exposure to cement factory emissions and respiratory health outcomes, including lung function impairment and respiratory symptoms, among occupationally and environmentally exposed populations. **Methods**: A systematic search was conducted in PubMed, Scopus, Web of Science and Google scholar was conducted for studies published between January 2000 and December 2025. Observational studies assessing exposure to cement dust and respiratory outcomes among workers or nearby residents were included. Primary outcomes included Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), FEV1/FVC ratio, and respiratory symptoms. Random effects model was used to perform meta-analysis using standardized mean differences (SMDs) and

risk differences (RDs) with 95% confidence intervals (CIs). **Results**: A total of 18 studies were included. Exposure to cement factory dust was associated with significant reductions in FEV1 (SMD = -0.71), FVC (SMD = -0.56), and FEV1/FVC ratio (SMD = -0.57). Chronic cough was significantly more common among exposed individuals, while other respiratory symptoms showed elevated but non-significant risks. Occupational exposure to cement dust exposure demonstrated greater FEV1 impairment than residential exposure. **Conclusion**: Cement factory emissions are significantly associated with impaired pulmonary function and increased respiratory morbidity, highlighting the need for improved occupational safety measures and environmental emission controls.

Khan et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Cement factory emissions; low and middle income countries; occupational health; respiratory function; respiratory tract diseases.

Evidence Level: 1A

Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1887654/full

Occupational wood dust exposure and lung function impairment: A systematic review and meta-analysis

Background: Occupational wood dust exposure has been implicated in reduced lung function. Owing to varied estimates from studies, a systematic review was done to evaluate the association between occupational wood dust exposure and decline in lung function. **Methods**: This systematic review has been conducted and reported according to Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines. The PubMed and Google Scholar databases were screened. Data were extracted from eligible studies and were considered for qualitative and quantitative synthesis. **Results**: The qualitative synthesis included 55 studies. Eligible studies were pooled using random-effects meta-analysis, and high heterogeneity was noted between studies with I2>95%. Workers exposed to wood dust showed significant reduction in lung function measures, including forced expiratory volume 1 percentage predicted (pooled mean difference [MD] -8.57; 95% CI -12.07 to -5.08; 16 studies), forced vital capacity (FVC) percentage predicted (pooled MD-7.43; 95% CI -11.35 to -3.51; 14 studies), and peak expiratory flow rate (PEFR) percentage predicted (pooled MD -13.43; 95% CI -25.14 to -1.72; 9 studies). Funnel plot indicated greater chances for publication bias among studies included in the meta-analysis. Sawmill workers were likely to have obstructive lung function patterns compared to furniture industry workers, who present with a restrictive pattern. **Conclusion**: Evidence from this review suggests that wood dust-exposed workers have a reduced FEV1, FVC, and PEFR, indicating obstructive and restrictive patterns. There is a need for workplace dust control measures and personal protective equipment to prevent lung function impairment among wood industry workers.

Srinivasan et al. 2026.

The National Medical Journal of India, vol. 39, no. 5.

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Keywords: Wood dust exposure; lung function; impairment.

Evidence Level: 1A

Link: https://nmji.in/occupational-wood-dust-exposure-and-lung-function-impairment-a-systematic-review-and-meta-analysis/

Spatial and temporal nonstationarity in the association between noise levels and perceived noise annoyance during work across groups with different chronotypes and levels of social jetlag

While numerous studies have examined the negative effects of noise on people's noise-related annoyance, limited attention has been paid to the spatio-temporal nonstationarity of noise levels and annoyance during work. To address this research gap, we employed Global Positioning System (GPS) devices, mobile noise sensors, and activity diaries to collect continuous noise exposure data from 482 participants in Hong Kong over one working day and one non-working day, capturing both noise exposure and perceived noise annoyance during at-home and workplace-based work episodes. We then examined how annoyance

responses to work-related noise vary by spatial (at home vs. workplace-based) and temporal contexts (working vs. non-working days), with particular focus on differences across different chronotype groups. The results revealed that: (a) significant differences exist in both noise exposure and annoyance between at-home and workplace-based work; (b) work noise exposure differs significantly between working and non-working days, whereas perceived noise annoyance does not; and (c) different chronotype groups exhibit distinct work patterns, noise exposure levels and annoyance. In particular, morning-type individuals experience lower work noise exposure and annoyance and demonstrate a moderating effect on the association between work noise and perceived annoyance. These findings enhance our understanding of potential stationarity bias in work-related noise exposure and perceived annoyance across spatial and temporal contexts, and provide valuable insights for the development of noise management policies tailored to different chronotype groups.

Song et al. 2026.

Health and Place, vol. 101.

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Keywords: Chronotype; mobile sensing; nonstationarity; work noise; work noise annoyance.

Evidence Level: 4B

Link: https://www.sciencedirect.com/science/article/pii/S1353829226001176?via%3Dihub

Prevalence of chronic respiratory disease symptoms and associated occupational risk factors among certified silicosis patients of Rajasthan

Background: Silicosis is an irreversible, fibrotic occupational lung disease caused by the chronic inhalation of respirable crystalline silica dust, and persists as a significant source of morbidity among sandstone quarry workers in Rajasthan, India. Despite the prevalence of silicosis, there has been no comprehensive assessment of the symptom load and occupational risk factors of Chronic Respiratory Symptoms among certified silicosis patients in the Balesar sandstone area. **Methods**: A community-based cross-sectional study was conducted in 355 certified silicosis patients (mean age 50.4 ± 10.6 years; all were exclusively male) who had resided for a minimum of 2 years in Balesar Block, Jodhpur, Rajasthan. Respiratory symptoms were evaluated using the ATS-DLD questionnaire. Predictors with a univariate chi-square $p < 0.25$ were included in a multivariable binary logistic regression model (IBM SPSS v25) to determine the independent predictors of composite Chronic Respiratory Symptoms status.

Result: The findings showed that 286/355 patients, 80.6%, had composite Chronic Respiratory Symptoms. The most prevalent symptoms were morning cough (80.0%), morning phlegm production (79.7%), and dyspnea attributable to cardiopulmonary impairment (78.0%); wheeze was noted by 51.3% and nocturnal breathlessness by 30.4%. The average age of symptom start was 40.4 ± 8.6 years, compared to 50.4 ± 10.6 years at certification, indicating a delay of about 10 years. In logistic regression, a conventional 8-h daily continuous work shift emerged as the most potent independent predictor of chronic respiratory disease symptoms (AOR 6.53, 95% CI 1.74-24.51, $p = 0.005$), while residing 6-10 km from the quarry also shown a significant correlation (AOR 2.74, 95% CI 1.07-6.99, $p = 0.035$). The associations between age at diagnosis (31-50 years) and illiteracy were statistically significant in the model ($p = 0.021$ and $p = 0.035$, respectively).

Conclusion: This is the first study conducted on certified silicosis patients, illustrating that 80.6% of Balesar Block's certified silicosis patients had active Chronic Respiratory Symptoms. The independent predictors were continuous standard-shift exposure and intermediate residential distance from quarries, strengthening the rationale for stricter daily exposure limits, mandatory dust suppression, and initial active case diagnosis in this occupational group.

Yadav et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Rajasthan; chronic respiratory disease; chronic respiratory symptoms; occupational lung disease; restrictive lung disorder; sandstone quarrying; silicosis.

Evidence Level: 4B

Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1927403/full

Multiple maternal occupational exposures during pregnancy and newborn size at birth: Analysis of the ELFE cohort, a French longitudinal study of children

Objective: We aimed to study multiple occupational exposures selected using an priori hypothesis as well as small-for-gestational age (SGA), birthweight (BW), and head circumference (HC). **Methods**: We analyzed data from the Étude Longitudinale Française depuis l`Enfance (ELFE) cohort (N=12 851 mother-child pairs with a gestational age >33 weeks). The outcomes of interest were SGA, BW, and HC. Of 47 factors (17 chemical, 8 physical, 4 biological, 12 biomechanical, 3 organizational and 3 psychosocial) to which mothers were exposed in their occupation assessed by job-exposure matrices in this cohort, we included those for which the epidemiological or experimental literature suggests an association with fetal growth. Logistic and linear regression models that included all preselected exposure variables were performed and adjusted for potential confounders. We conducted additional analysis stratified by trimester of pregnancy. **Results**: The logistic model, which included all preselected variables, reported that - for all women - exposure to ultrafine particles (UFP) increased SGA risk [odds ratio (OR) 1.46, 95% confidence interval (CI) 1.12-1.90] while standing decreased it (OR 0.82, 95% CI 0.67-1.00). Among mothers who stopped working during the first/second trimester of pregnancy, we found the same SGA risk for UFP; exposure to high strain also increased the risk (OR 1.81, 95% CI 1.18-2.83). Among those who stopped working during the third trimester, exposure to oxygenated solvents increased SGA risk (OR 2.24, 95% CI 1.08-4.41). In the linear model, for all women, there was a decrease in BW (β -34 grams, 95% CI -66- -1.1) among those exposed to UFP. For mothers who stopped working during the first/second trimester, exposure to vibration increased BW, while among those who stopped working during the third trimester, exposure to night work increased BW. Exposure to oxygenated solvents decreased HC (β -0.22 cm, 95% CI -0.44-0.00) among all women. **Conclusion**: These findings suggest the possible influence of chemical and strenuous factors at work on fetal growth, particularly depending on the trimester in which pregnant mothers stopped working. While the combined assessment of multiple exposures did not reveal clear associations, further studies are needed to explore potential interactions and underlying biological mechanisms.

Tartaglia et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: ELFE; children; exposure; fetal growth; hypothesis-driven; longitudinal study; maternal occupational exposure; newborn size; pregnancy; pregnant worker.
Evidence Level: 4B
Link: https://www.sjweh.fi/article/4289

Metabolic changes in human plasma samples among workers exposed to diisocyanate products

Introduction: In the European Union (EU), the total use of diisocyanates is 2.5 million tons per year. Diisocyanates are highly reactive chemicals, containing two isocyanate functional groups. Diisocyanates are the main cause of occupational asthma in EU. The aim of this study was to assess metabolic changes in human plasma after occupational exposure to diisocyanates. **Methods**: This study used samples and data provided by the EU project HBM4EU. The study population was recruited from Finland and Belgium, including 81 diisocyanate exposed workers and 40 controls. Non-targeted metabolomics was used to assess metabolic changes in plasma samples. Samples were analyzed with two distinct chromatographic retention mechanisms in both positive and negative ionization mode, measured with a high-resolution mass spectrometer. **Results**: Differences in metabolite profiles between workers and controls were observed. Diisocyanate exposure was associated with higher 5-aminovaleric acid betaine, tetradecenoylcarnitine, lysophosphocholine 18:1 and lower N1-methyl-4-pyridone-3-carboxamide levels. Additionally, variations were observed in metabolite profiles between Finnish and Belgian individuals. **Conclusions**: This study is the first to assess metabolite changes in human plasma samples after occupational exposure to diisocyanates. These preliminary results suggest that exposure to diisocyanates may affect fatty acid metabolism, but the observations need to be validated in future studies.

Sunnarborg et al. 2026.
Food and Chemical Toxicology, vol. 215.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Biomarker; diisocyanates; metabolomics; occupational asthma; occupational exposure.

Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0278691526002577?via%3Dihub

Occupational noise exposure during pregnancy and birth outcomes: A large-scale cohort study in Nordic countries

Objectives: Adverse birth outcomes such as low birth weight (LBW), small for gestational age (SGA) and preterm birth (PTB), are major indicators of perinatal health, yet evidence on the effects of occupational noise during pregnancy remains limited. **Methods**: This multi-country register-based study (n = 590,454) examined associations between occupational noise exposure estimated using a job-exposure matrix with daily 8-h equivalent sound levels (<70, ≥70-<75, ≥75-<80, ≥80 dBA) and adverse birth outcomes in metropolitan areas of Denmark, Finland, Norway, and Sweden. **Results**: Results across the four countries were inconsistent. Indications of higher odds of LBW, SGA, and PTB, particularly in Norway and Sweden were seen, though these associations attenuated after full adjustment. Meta-analyses of fully adjusted models indicated no pooled associations between occupational noise exposure (≥80 dBA category) and birth weight (estimate = -0.35 g, 95% CI [-14.58, 13.88]), LBW (OR = 1.03, 95% CI [0.88, 1.20]), SGA (OR = 1.07, 95% CI [0.88, 1.29]), or PTB (OR = 1.01, 95% CI [0.83, 1.23]). However, sensitivity analyses based on the Swedish data suggested that working hours (full-time, part-time) and work absence may modify the association (birth weight: estimate = -37.66 g, 95% CI [-61.11, -14.22], LBW: OR = 1.49, 95% CI [1.22, 1.81], PTB: OR = 1.44, 95% CI [1.23, 1.70]). **Conclusions**: Overall, the findings do not support strong associations between occupational noise exposure and adverse birth outcomes. Based on sensitivity analysis, additional data on working hours and work absence may modify the relationship in future studies.
Šulc et al. 2026.
Environmental Research, vol. 308.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Job-exposure matrix; low birth weight; preterm birth; register study; small for gestational age; work absence.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S001393512601933X?via%3Dihub

Occupational heat strain among home health care workers: A cross-sectional study

Background: Extreme heat events affect workers' health. Home health care workers face physically strenuous tasks, mobility demands, and increased workloads during heat events. Yet little is known about the extent of heat strain and the specific symptoms they experience. This study aims to examine how home health care workers in Switzerland perceive heat exposure at work and what heat-related symptoms they experience. We examine which factors are associated with perceived heat strain. **Methods**: We conducted an anonymous online cross-sectional survey of home health care workers (N = 359) in north-eastern and Southern Switzerland, two climatically distinct regions. Using items from previous studies on occupational heat strain, we assessed perceived heat strain, heat-related symptoms and a set of independent variables. Differences were tested using Mann-Whitney U and chi-square tests, followed by ordinal logistic regression to identify associations and regional moderation effects. **Results**: Substantial perceived heat strain was reported by 86% of participants. Higher levels of perceived heat strain were significantly associated with increased workload (OR 14.06, 95% CI 7.12-28.85), heat-related symptoms (OR 5.27, 2.20-12.88), constrained hydration (OR 2.59, 1.35-5.02), working in southern Switzerland (OR 3.98, 2.11-7.61), and seeking cool environments to rest (OR 3.78, 1.55-9.60). **Conclusions**: Home health care workers reported substantial perceived heat strain at work, particularly when workload increased or hydration was constrained. Regional differences were evident, with stronger heat strain in southern Switzerland. Findings highlight the need to develop heat-protection measures tailored to workplace characteristics-such as workload, constrained hydration, and geographical region-to strengthen climate resilience in this essential and understudied workforce.
Fortunato et al. 2026.
BMC Public Health, vol. 26, no. 1.
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Keywords: Climate change; heat strain; home care workers; home health care workers; occupational health; prevention; public health; survey; Switzerland.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1186/s12889-026-28969-8

What states are most at risk? An epidemiologic analysis of state-level occupational heat-related illness and fatality trends over three decades

Background: Occupational heat-related illnesses and fatalities are a growing public health concern. Understanding longitudinal geographic patterns and predictors can inform targeted prevention efforts. **Methods**: This study assessed three decades of state-level U.S. Bureau of Labor Statistics (BLS) data on occupational heat-related illnesses (1992-2020) and fatalities (1992-2022). Generalized linear models (Poisson, negative binomial, and gamma regression) as well as linear regression models assessed temporal and temperature-related associations. **Results**: Substantial geographic variation was observed. Sixteen states showed increasing trends in heat-related illnesses, with several also experiencing rising median days lost from work, indicating increasing severity. Temperature averages were significantly associated with illness frequency and proportional rates across multiple states. Fatalities demonstrated less consistent associations, though most notably Texas exhibited a significant increase in worker deaths over time, with additional temperature-related trends in Texas and Arizona. **Conclusion**: Heat-related occupational illness and severity are rising in multiple U.S. states, highlighting the need for state-specific prevention and adaptation strategies. Findings support the development of workforce resilience standards and targeted interventions in high-risk industries during extreme heat events. This work contributes to the evidence base for policy development
Mullins-Jaime et al. 2026.
Journal of Safety Research, vol. 98.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Climate change and worker health; epidemiological trends; occupational heat stress; risk management in occupational safety; work-related illness and injury.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0022437526000137?via%3Dihub

Association between combined occupational exposure to coal dust and noise and high-frequency hearing loss among workers: A cross-sectional study

Background: Occupational environments contain a wide variety of harmful factors, with noise often coexisting with other physical, chemical factors, leading to combined exposure that may increase the risk of hearing impairment among workers. This study aims to investigate the association of occupational noise and coal dust combined exposure on noise-induced hearing loss in workers, providing evidence for the prevention and control of occupational noise-induced hearing loss in occupational populations. **Methods**: We conducted a cross-sectional study of 1,187 occupationally exposed workers. These workers who underwent occupational health examinations at a certain occupational health examination institution in Baiyin City in 2023 were selected as study subjects and divided into a noise only group (276 participants) and a combined noise-coal dust exposure group (911 participants). Pure-tone air-conduction audiometry was used to assess hearing loss, and the χ 2 test and multivariate logistic regression analysis were applied to identify risk factors for high-frequency hearing loss (HFHL). **Results**: The prevalence rates of HFHL were 35.5 and 46.8% in the noise group and the combined noise-coal dust exposure group, respectively, with a statistically significant difference ($p < 0.001$); the prevalence of speech-frequency hearing loss was relatively low. Hearing abnormalities were primarily concentrated in the high-frequency range, with a marked decline around 4,000 Hz. Multivariate logistic regression analysis indicated that age, gender, and exposure to occupational hazards were independent risk factors for HFHL. After multivariable adjustment, combined exposure to occupational noise and coal dust was associated with higher odds of HFHL compared with noise exposure alone (OR = 1.620, 95% CI: 1.198-2.190, $p = 0.002$). **Conclusion**: Occupational noise-induced hearing loss is predominantly HFHL, and Workers classified as jointly exposed to occupational noise and coal dust had higher adjusted odds of HFHL than workers classified as exposed to occupational

noise alone. Comprehensive protection and occupational health surveillance for workers exposed to combined hazards should be strengthened.
Ma et al. 2026.
Frontiers in Public Health, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Coal dust; combined exposure; high-frequency hearing loss; noise exposure; occupational exposure.
Evidence Level: 4B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1929586/full

Sun exposure and photoprotection knowledge, habits, and attitudes among Spanish Military Personnel

Background and objectives: The incidence of skin cancer continues to rise, with ultraviolet (UV) radiation exposure representing its main modifiable risk factor. Military personnel constitute a particularly vulnerable population due to the combination of occupational and recreational sun exposure, together with operational constraints related to uniforms and working conditions. The aim of this study was to assess knowledge, habits, and attitudes related to sun exposure and photoprotection among Spanish military personnel, and to explore differences in photoprotective practices according to sociodemographic and professional variables. **Materials and methods:** A cross-sectional observational study was conducted using a validated self-administered questionnaire in a sample of 500 active-duty Spanish military personnel from different ranks. Data collected included sociodemographic and phenotypic characteristics, knowledge, habits, and attitudes. Descriptive analyses and bivariate inferential analyses using non-parametric tests were performed. **Results**: Most participants reported frequent sun exposure in both occupational and leisure settings, with longer daily exposure during leisure time; 81.6% reported exposure of ≥ 3 h per day. Overall, 73.4% experienced at least one sunburn in the previous year. Sunglasses and sunscreen were the most commonly adopted photoprotective measures, whereas avoidance of peak sun hours and use of protective clothing were infrequent. Knowledge of UV radiation risks was generally high, although misconceptions persisted regarding shade protection and vitamin D exposure. Photoprotective practices were significantly poorer during leisure time than during occupational activities ($p < 0.01$). **Conclusions**: Spanish military personnel demonstrate adequate knowledge and positive attitudes toward photoprotection but insufficient protective practices, particularly outside the occupational setting. These findings highlight the need to strengthen health education and integrate photoprotection into **military** training and operational environments.
Enríquez-Molina et al. 2026.
Photodermatology, Photoimmunology and Photomedicine, vol. 42, no. 5.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Military personnel; photoprotection; skin cancer; sun exposure; ultraviolet radiation.
Evidence Level: 4B
Link: https://onlinelibrary.wiley.com/doi/10.1111/phpp.70119

Sedentary Practices

Associations between accelerometer-assessed occupational and leisure-time sitting and self-reported cognitive dysfunction in Swedish middle-aged adults: A cross-sectional analysis from the SCAPIS study

Background: The relationship between sedentary behavior and cognitive health remains insufficiently understood. The aim of this study was to examine associations between occupational and leisure-time sitting and self-reported cognitive dysfunction. **Methods**: Data from men and women, aged 50-64 years old, participating in the Umeå site of the cross-sectional Swedish CArdioPulmonary bioImage Study (SCAPIS) was used. Occupational and leisure-time sitting were measured using a thigh-worn accelerometer over seven days. Work hours were reported in a diary. Cognitive dysfunction was measured using the Cognitive Dysfunction Questionnaire. A Hurdle model was used to firstly assess the association of domain-specific

sitting time with any cognitive dysfunction (logistic regression) and secondly with the severity of cognitive dysfunction (beta-binomial regression). Analyses were adjusted for sex, age, educational level, moderate-to vigorous physical activity, sleep duration, risky alcohol intake and emotional health limitations. **Results**: A total of 1559 participants were included. In the fully adjusted model, each additional hour of occupational sitting was associated with 8% lower odds of reporting cognitive dysfunction (odds ratio (OR) 0.92, 95% confidence interval (CI) 0.87-0.98), while each additional hour of leisure-time sitting was associated with 12% higher odds (OR 1.12, 95% CI 1.03-1.21). Neither occupational nor leisure-time sitting was significantly associated with the severity of cognitive dysfunction among individuals reporting any dysfunction. **Conclusions**: Domain-specific sitting time was associated with the occurrence, but not the severity, of self-reported cognitive dysfunction in middle-aged adults. The contrasting associations observed for occupational and leisure-time sitting suggest that the context of sedentary behavior may be relevant for cognitive health. Future longitudinal studies using device-based measurements are needed to clarify causality and to explore the potential role of cognitively active and passive sedentary behaviors.
Bergman et al. 2026.
BMC Public Health, vol. 26, no. 1.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Accelerometry; cognition; sedentary behavior; sedentary domains.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1186/s12889-026-29397-4

Teleworking as the main risk factor for sedentary behavior: The COVISTRESS international study

Background: If teleworking is already associated with prolonged sedentary behavior, the literature lacks an integrating model with all putative influencing variables, as well as a sufficient number of participants to explore extreme sitting behavior. Therefore, we aimed to investigate the influence of teleworking on sitting time, considering main sociodemographic, occupational and lifestyle factors. **Methods**: The COVISTRESS study is an international observational study, using self-reported questionnaires (REDCap® software). We used linear and logistic multivariate model to assess the impact of telework on sitting time concomitantly with other sociodemographic, occupational, and lifestyle variables. **Results**: 6,653 respondents were included. The mean sitting time was 5.6 ± 3.4h/day, with 15.2% of respondents sitting for >8-14h/day and 1.6% sitting >14 hours/day. Workers who teleworked 0%, 1-25%, 26-50%, 51-75%, 76-99%, and 100% respectively sat on average 4.9 ± 3.2h/day, 5.8 ± 3.2h/day, 6.4 ± 3.1h/day, 6.5 ± 3.8h/day, 7.6 ± 3.5h/day, and 9.1 ± 4.3h/day, and the prevalence of workers sitting >14h/day increased from 1.5%, 1.9%, 0.4%, 3.2%, 5.4% to 10.7%. Compared with workers who did not telework, the risk of sitting 8-14 h/day was multiplied by 1.9 (1.2 to 3.0) for people working 1-25% in telework, by 4.7 (2.2 to 9.7) for people working 26-50% in telework, by 4.3 (1.5 to 12.2) for people working 51-75% in telework, and by 9.2 (1.6 to 51.5) for people working >75% in telework; the risk of sitting ≥ 14h/day was multiplied by 5.8 (1.07 to 31.5) for people working 51-75% in telework and dramatically increased by 34.3 (3.71 to 317) for people working >75% in telework in multivariate model. **Conclusion**: Teleworking is the strongest risk factor for high sitting time, with a marked dose-response relation. While several other sociodemographic, occupational, and lifestyle factors showed association with sitting time in univariate model, many of these relationships weakened or disappeared in the multivariate models, except telework that remained the most consistent determinants of sedentary behavior when concomitantly put together with all other variables.
Nasir et al. 2026.
PLoS One, vol. 21, no. 9.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Teleworking; sedentary behavior; sitting.
Evidence Level: 4B
Link: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0356764

Perceptions of activity-based flexible offices among onsite, hybrid and remote workers

This study compares perceptions of Activity-based Flexible Offices (AFOs) among remote, hybrid, and onsite workers. Cross-sectional survey data was collected from 1263 employees from a public service organisation in autumn 2022. The results revealed significant differences in how these groups perceive the physical work

environment. Onsite workers reported the highest satisfaction with task support, while remote workers were least satisfied. Privacy ratings were low across all groups. Remote and hybrid workers commented that they worked from home primarily for tasks requiring concentration and confidentiality. The findings suggest that employees' perceptions of AFOs - including insufficient numbers of enclosed workspaces and meeting rooms - may influence the degree of remote work.
Forooraghi et al. 2026.
Applied Ergonomics, vol. 135.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Activity-based working; hybrid work; workplace design.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0003687026000384?via%3Dihub

Physical Activity

The consequences of changes in exercise habits on work engagement and presenteeism: Evidence from an event-study analysis using Japanese longitudinal data

Objective: This study aimed to estimate the consequences of changes in employee exercise habits (starting and quitting) on work engagement and presenteeism. **Methods**: Since January 2023, the Japan Institute for Labour Policy and Training has conducted the semi-annual JILLS-i longitudinal, web-based survey to represent Japan's middle-aged population structure (512 strata defined by gender, age, employment status, region, education). Of the 11 148 regular employees in the first wave, we analyzed the four-wave data of 6576 individuals (N=26 304 person-waves). We utilized work engagement and productivity (presenteeism) as our analytical outcomes. Binary indicators for relative time from changes in exercise habits were included as explanatory variables to estimate temporal associations with job-related outcomes using an event-study analysis, a quasi-experimental approach. **Results**: Both starting and quitting exercise habits showed no significant association with presenteeism. However, starting exercise was positively associated with work engagement, whereas quitting was negatively associated with it. Starting exercise showed a significant association over longer follow-up waves than quitting exercise. Gender differences were observed in the association of quitting exercise with work engagement. **Conclusions**: The acquisition of exercise habits may lead to a sustained improvement in work engagement, a crucial psychological resource for employees. Our results potentially suggest a divergence in the dynamics of effect between organizational support for starting versus preventing quitting exercise. Although exercise promotion may not lead to substantial improvements in productivity as measured by presenteeism, it may still yield meaningful psychological benefits.
Kashima et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Japan; event-study analysis; exercise; fixed effect; longitudinal data; physical activity; presenteeism; quasi-experimental study; work engagement.
Evidence Level: 3B
Link: https://www.sjweh.fi/article/4303

Musculoskeletal Health

Paid and unpaid productivity losses associated with musculoskeletal conditions: Longitudinal Evidence from Australia

Objectives: To examine the impact of musculoskeletal conditions on paid and unpaid productivity using longitudinal Australian data. **Methods**: Data were drawn from 4 waves of the Household, Income, and Labor Dynamics in Australia Survey. Musculoskeletal conditions (MSCs) were identified from self-reported arthritis or osteoporosis, with prescription medication as an indicator of symptom severity. Functional limitation severity was classified using tertiles of the SF-36 Physical Functioning subscale. Correlated random-effects models estimated within- and between-person associations between MSCs and weekly paid, unpaid, and total productivity, adjusting for demographic, socioeconomic, and lifestyle covariates. **Results**: Overall, 36% of respondents reported an MSC in at least 1 wave. Individuals with MSCs worked 3.2

fewer paid hours per week (95% CI -3.9 to -2.4) but performed 3.1 more unpaid hours (95% CI 2.1 to 4.2), leaving total productivity largely unchanged. Respondents with MSCs but no medication worked 4.7 fewer paid hours (95% CI -5.8 to -3.5) and 4.7 more unpaid hours (95% CI 2.9 to 6.5), whereas those using medication worked 6.8 fewer paid hours (95% CI -7.8 to -5.9) and 3.0 more unpaid hours (95% CI 1.4 to 4.7). At lower physical functioning levels, paid (-12.8 hours) and total productivity (-13.2 hours) declined sharply. Paid-work losses were larger for men, consistent with significant sex differences in the correlated random-effects models. **Conclusions**: MSCs substantially reduce paid work and partly redirect time into unpaid work. Policies that support labor-force retention-such as early management of functional decline-and recognition of the unpaid role are essential to address the broader productivity burden.

Alemu et al. 2026.

Value in Health, vol. 29, no. 9.

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Keywords: Australia; arthritis; longitudinal analysis; musculoskeletal conditions; osteoporosis; productivity loss.

Evidence Level: 4A

Link: https://www.sciencedirect.com/science/article/pii/S1098301526024071

Labor market participation among patients referred to occupational medicine with low-back pain: A Danish nationwide register-based cohort study

Objectives: This study aimed to characterize long-term labor market participation from five years before to five years after assessment at departments of occupational medicine among patients referred with low-back pain (LBP) and to compare these patterns with those in a matched general working population. Secondary objectives were to assess subgroup differences and time to return to work. **Methods**: In this nationwide register-based cohort study, we included Danish residents aged 18-60 years referred for assessment (N=8256) and matched comparators (1:5 on sex, age, and calendar year; N=41 280). Using weekly register data, we calculated the prevalence of different labor market states before and after assessment as well as propensity score-weighted prevalence differences and ratios, and we performed stratified analyses. We estimated the five-year cumulative incidence of return to work among individuals on temporary public benefits using the Aalen-Johansen estimator. **Results**: At assessment, 37% of patients were working versus 83% of comparators. Five years post assessment, 40% of patients were working and 32% received permanent health-related public benefits. We observed substantial heterogeneity, with larger deficits in work participation in several subgroups. Among patients on temporary public benefits at assessment, the five-year cumulative incidence of return to work was 42%, with no increase in overall work prevalence. **Conclusions**: LBP patients had persistently poorer labor market participation than matched comparators, with declines already evident one year before assessment. Prognosis was particularly poor among older patients, those with weaker labor market participation at assessment, and those with comorbidities. These findings highlight the need for early identification and timely intervention and referral.

Rønnow et al. 2026.

Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.

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Keywords: Denmark; back pain; cohort study; labor market participation; low-back pain; musculoskeletal disorder; occupational epidemiology; occupational medicine; propensity score; register-based cohort study; return to work.

Evidence Level: 4B

Link: https://www.sjweh.fi/article/4305

Region-specific prevalence and associated factors of work-related musculoskeletal disorders among pilots of a commercial airline: A cross-sectional study

Objectives: To estimate the prevalence and anatomical distribution of work-related musculoskeletal disorders (WMSDs) among pilots of a Chinese commercial airline and identify factors associated with neck, shoulder and lower-back WMSDs. **Design**: Cross-sectional study. **Setting**: A commercial airline in China; data were collected during routine periodic medical examinations from 17 November 2025 to 31 December

2025. **Participants**: A total of 1042 active commercial airline pilots (1030 men and 12 women) were included from 1200 invited pilots. **Primary and secondary outcome measures:** The prevalence of WMSDs across nine anatomical regions and factors associated with WMSDs in the neck, shoulders and lower back. **Results**: The overall prevalence of WMSDs was 21.50%; the most commonly affected regions were the lower back (11.52%), neck (11.32%) and shoulders (8.35%). Working in uncomfortable postures was associated with WMSDs across all three regions, particularly for 'often' exposure: neck (adjusted OR (aOR) 7.97, 95% CI 3.58 to 17.76), shoulders (aOR 5.48, 95% CI 2.35 to 12.80) and lower back (aOR 8.58, 95% CI 3.89 to 18.94). Neck WMSDs were associated with prolonged head-down posture and covering shifts for colleagues, whereas adequate rest time was inversely associated. Shoulder WMSDs were associated with prolonged static back posture. Lower-back WMSDs were positively associated with covering shifts and cold/temperature exposure and inversely associated with adequate rest, daily task variation and outdoor work. **Conclusions**: WMSDs most commonly affected the lower back, neck and shoulders. Working in uncomfortable postures was consistently associated with WMSDs across these regions, while work-organisation and environmental factors showed site-specific associations.

Liu et al. 2026.

BMJ Open, vol. 16, no. 9.

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Keywords: Cross-sectional studies; ergonomics; prevalence.

Evidence Level: 4B

Link: https://bmjopen.bmj.com/content/16/9/e123382.long

Interdisciplinary occupational health system for recovery from musculoskeletal injuries in US Army personnel

Importance: Musculoskeletal injuries are a leading cause of pain, disability, and lost workforce productivity in the US. These injuries are more frequent in physically demanding occupations, making strategies to accelerate recovery a critical economic, public health, and workforce sustainability issue. **Objective**: To evaluate whether an embedded interdisciplinary occupational health intervention was associated with faster return-to-work times after a musculoskeletal injury. **Design, setting, and participants:** This cohort study analyzed longitudinal data on 43 870 526 person-month observations from active-duty US Army personnel collected between October 1, 2017, and September 30, 2025. **Exposure**: Assignment to an Army unit with an embedded Holistic Health and Fitness (H2F) occupational health system, which includes on-site physical therapists, athletic trainers, occupational therapists, registered dietitians, strength and conditioning coaches, and cognitive performance specialists. **Main outcomes and measures:** Number of limited duty workdays after a musculoskeletal injury and time to return to full duty. Linear regression, logistic regression, and Kaplan-Meier models with inverse probability of treatment weighting were used to estimate the association between the intervention and recovery outcomes. **Results**: Among 1 420 195 musculoskeletal injuries in active-duty soldiers (mean [SD] age, 28.6 [7.64] years; 79% male) that resulted in limited duty restrictions, 19% were in soldiers exposed to the H2F embedded occupational health system. Exposure to H2F was associated with a 5.9% (95% CI, 7.2%-4.6%; P < .001) reduction in the duration of limited duty workdays compared with soldiers not exposed to H2F. Reductions in limited duty workdays were greater for lower-body injuries than for upper-body injuries. These reductions corresponded to an estimated 3.3 million to 4.0 million workdays restored during the study period, representing an annual labor productivity value of $93 million to $164 million. **Conclusions and relevance:** In this cohort study of active-duty US Army soldiers, embedding an interdisciplinary occupational health system directly into the workplace was associated with a significantly accelerated recovery time from musculoskeletal injuries. These findings suggest that employer-sponsored occupational health interventions are a scalable strategy to reduce injury-related absenteeism and enhance workforce productivity, particularly in high-risk industries.

Murray et al. 2026.

JAMA Network Open, vol. 9, no. 9.

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Keywords: Recovery; musculoskeletal injuries; US Army.

Evidence Level: 4B
Link: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2854182#google_vignette

Changes and determinants of health-related quality of life in patients with work-related traumatic musculoskeletal injuries: A Longitudinal Analysis of HRQoL and the EQ-VAS

Purpose: This study aims to analyze change over time in health-related quality of life and the current overall health status of patients with severe musculoskeletal injuries, specifically focusing on those who have undergone inpatient rehabilitation following work-related injuries. **Methods**: Data were sourced from the icfPROreha research project (DRKS-ID: DRKS00014857), involving a multicenter longitudinal study conducted across ten German clinics. The study population comprised patients who had sustained severe musculoskeletal work-related injuries. The EuroQol 5 Dimensions 5 Levels (EQ-5D-5L) was used to assess changes in health-related quality of life (HRQoL) measured at admission (t1), discharge (t2), and four follow-up periods up to 78 weeks after discharge. Descriptive analyses were conducted to illustrate the development of HRQoL across all time points. In addition, the current overall health status was measured using the EuroQol Visual Analogue Scale (EQ-VAS) at the same time points. Multilevel growth models were used to analyze change over time in EQ-VAS scores, considering the biopsychosocial perspective of health as indicated by the International Classification of Functioning, Disability, and Health (ICF), developed by the WHO. **Results**: In total, 698 patients [males: 75.2%; mean age 47.5 years (SD ± 12.3)] with severe musculoskeletal work-related injuries were included in the analyses. The mean EQ-VAS at baseline was 50.3 and the mean EQ-5D-5L index was 0.6. Descriptive analyses of the EQ-5D-5L showed significant improvements across all five dimensions of HRQoL after discharge, with the most pronounced changes observed in mobility and usual activities. Moreover, the study demonstrated a significant improvement in the EQ-VAS over time. Baseline EQ-VAS had a substantial influence on subsequent changes, with various factors such as psychological well-being, visible consequences and severity of injury affecting recovery outcomes. Notably, differences in health status over time were observed across different injury types. **Conclusion**: The study demonstrates significant enhancements in the current overall health status among patients with traumatic musculoskeletal injuries following workplace or commuting accidents during inpatient rehabilitation. Furthermore, these findings emphasize the application of the ICF framework in capturing the multidimensional aspects of patient recovery. Despite improvements, patients' health status did not reach the levels observed in the general population, indicating the need for ongoing support and targeted interventions to ensure long-term recovery.
Adrovic et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Biopsychosocial; fracture; occupational accident; polytrauma; quality of life.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1007/s10926-025-10304-4

Office workers' perspectives on implementing active breaks supported by a digital intervention to alleviate spinal pain: A qualitative study

Background: Work-related spinal pain is highly prevalent among office workers and contributes to disability and reduced productivity. Active breaks have shown benefits, but their integration into daily routines remains challenging. **Objective**: To explore office workers' beliefs, expectations, and perceived barriers regarding a digital intervention designed to support active breaks at work for the management of work-related spinal pain. **Methods**: Seventeen office workers from the University of Lleida, all experiencing work-related spinal pain, participated in semi-structured interviews between June 2023 and February 2024. Data were analysed using Malterud's systematic text condensation framework. **Results**: Three main themes emerged: work-related spinal pain, implementation of active breaks at work, and feasibility of a digital intervention in the workplace. Participants reported persistent spinal pain due to static postures and job stress, often leading to passive coping strategies. Although they perceived stretching and mobility exercises at work as beneficial, integrating them into daily routines was challenging due to heavy workloads and concerns about managerial perceptions. Employees preferred shorter, flexible breaks over longer interruptions. Digital interventions were viewed favourably for their convenience and accessibility, but

personalised guidance from health professionals was considered crucial for adherence. **Conclusion**: Office workers expressed confidence in adopting a digital intervention for active breaks, supported by self-management strategies and physiotherapist guidance, to alleviate spinal pain. These findings highlight the importance of involving workers in designing workplace health programs tailored to their needs and preferences.

Tersa-Miralles et al. 2026.

Brazilian Journal of Physical Therapy, vol. 30, no. 5.

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Keywords: Exercise therapy; occupational health; office workers; qualitative study; sedentary behavior; spinal pain.

Evidence Level: 5B

Link: https://www.sciencedirect.com/science/article/pii/S1413355526000596?via%3Dihub

A review of the role played by physical and occupational therapists in the United States treating work-related musculoskeletal disorders: 2015-2025

Objective: To examine the evolution of physical and occupational therapy in the treatment of work-related musculoskeletal disorders from 2015 to 2025. **Methods**: Qualitative and quantitative data were gathered through an extensive landscape review that included peer-reviewed studies and grey literature. **Results**: For employers and health plans, the health and economic burden of musculoskeletal disorders is high, with increases driven by several factors, such as an aging population. Physical and occupational therapists have played a significant role in minimizing the health, productivity, and cost consequences of musculoskeletal disorders. **Conclusions**: There is strong scientific support for physical and occupational therapy in the treatment of work-related musculoskeletal disorders. Despite challenges, several trends in regulations, training, technology, and workforce make these disciplines well-positioned to play an even larger role in the coming decade.

Goetzel et al. 2026.

Journal of Occupational and Environmental Medicine, vol. 68, no. 9.

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Keywords: Ergonomics; musculoskeletal disorders; occupational safety and health; occupational therapy; physical therapy; return-to-work; work; work-related injuries.

Evidence Level: 6B

Link: https://www.ovid.com/jnls/joem/fulltext/10.1097/jom.0000000000003747~a-review-of-the-role-played-by-physical-and-occupational

Guiding and Supporting Mental Health and Wellbeing

Mental Health

Association between occupational stress, work arrangements, and depression in men: Review of observational studies 2020-2025

Background: Men may be particularly vulnerable to cumulative occupational stress because of breadwinner expectations, employment in high-risk industries, night work, and delayed help-seeking. However, evidence linking occupational stress and nonstandard work arrangements to depression in men remains inconsistent because of heterogeneous study designs, exposure definitions, and outcome measures. **Methods**: This review synthesized observational studies published between 2020 and 2025 that examined the effects of psychosocial occupational stress, shift or night work, and long working hours on clinically diagnosed depression or depressive symptoms in men. Studies were eligible if they included male-only cohorts or reported sex-stratified results. PubMed, Scopus, Web of Science, Korean Citation Index, and Research Information Sharing Service, were searched for records published from January 1, 2020, through February 2, 2026. Risk of bias was assessed using Risk Of Bias In Non-randomized Studies: of Interventions. **Results**: Eleven observational studies were included. Overall risk of bias was rated Moderate in 36.4% (4/11) and Serious in 63.6% (7/11) of the studies; none were rated Critical. High job strain was associated

with an increased risk of major depressive episodes in men. Shift work was associated with higher depression risk in the UK Biobank, whereas a German cohort showed a positive but uncertain association. In Korean studies, associations between night or shift work and depression generally weakened after adjustment for confounders. In contrast, psychosocial stressors: including high job demands, interpersonal conflict, job insecurity, and rigid workplace culture: remained strongly associated with incident depression. Long working hours also significantly increased depression risk among young adults. **Conclusion**: These findings indicate that depression risk in men reflects interactions between work schedules and qualitative occupational stressors rather than work arrangements alone. Future studies should employ longitudinal designs, standardized depression assessments, precise and repeated exposure measurements, and rigorous confounder control. Male-specific analyses stratified by age, occupation, and employment stability are also needed to strengthen causal inference.

Byeon 2026.

Medicine, vol. 105, no. 38.

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Keywords: Depressive symptoms; long working hours; men; occupational stress; shift work.

Evidence Level: 1A

Link: https://www.ovid.com/jnls/md-journal/fulltext/10.1097/md.0000000000050735~asssociation-between-occupational-stress-work-arrangements

Work-focused cognitive behavioural therapy for common mental disorders: A systematic review and meta-analysis

Background: Common mental disorders (CMDs) are a major cause of sickness absence and work disability. Although cognitive behavioural therapy (CBT) effectively reduces symptoms, effects on return-to-work (RTW) outcomes are limited. Work-focused CBT (W-CBT) integrates RTW processes into treatment, but the evidence base remains heterogeneous with unresolved methodological challenges. This systematic review and meta-analysis evaluated the effectiveness of W-CBT on psychiatric and work-related outcomes, examined moderators of treatment effects, assessed methodological rigour, and identified common intervention components, with particular attention to how RTW outcomes are analyzed. **Methods**: Systematic searches were conducted in Medline, PsycINFO, and Web of Science from inception to December 2025. Randomized and non-randomized studies evaluating CBT with an integrated work focus among working-age adults on sickness absence due to CMDs were included. Random-effects meta-analyses were performed using multilevel models with cluster-robust standard errors to address outcome dependency. Moderator analyses examined treatment content, number of sessions, and study characteristics. RTW outcomes were evaluated regarding their statistical properties, summary measures, and analytic methods used in primary studies. Risk-of-bias was assessed using Cochrane Risk of Bias tool version 2 and ROBINS-I. **Results**: Twenty-four studies comprising 26 W-CBT treatment conditions (n = 3,279 participants) were included. Large within-group improvements in psychiatric symptoms were observed and maintained at follow-up, while between-group effects were statistically significant but small. At post-treatment, 56% of participants had returned to work, increasing to 87% at follow-up, with a higher likelihood of full RTW in W-CBT compared with controls. CBT content, stronger work focus, and higher treatment dose were associated with larger symptom improvements. However, RTW outcomes showed substantial heterogeneity. Many studies used analytic approaches assuming normally distributed data for outcomes that were bounded, skewed, or zero-inflated, or reported hazard ratios with limited comparability, constraining valid synthesis. **Conclusions**: W-CBT is associated with meaningful symptom improvement and increased likelihood of RTW. However, misalignment between RTW outcome properties and analytic methods represents a major threat to validity. Future research requires improved outcome definitions, appropriate statistical modeling, and greater methodological consistency.

Finnes et al. 2026.

BMC Public Health, vol. 14, no. 1.

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Keywords: Bounded data; mental disorders; occupational health; psychological treatment; return to work; sick leave; zero-inflation.

Evidence Level: 1A

Link: https://link.springer.com/article/10.1186/s40359-026-05648-2

Employment and working conditions and risk of suicidal behaviors: A systematic review and meta-analysis of longitudinal studies

Objectives: Systematic research on employment/working conditions as risk or protective factors for suicidal behaviors is limited. In this study, we systematically reviewed the literature on a range of employment or working conditions and the risk of suicidal behaviors (suicide and suicide attempt), focusing on longitudinal studies. **Methods**: We searched Web of Science, Scopus, PsycINFO, and Embase during 1995-2024 for cohort and case-control studies and performed meta-analysis to pool data if there were ≥2 studies on the same type of conditions and outcome. **Results**: A total of 27 studies met the eligibility criteria, of which 14 studies were used in meta-analyses. Meta-analyses showed statistically significant associations between part-time work [relative risk (RR) 1.21, 95% confidence interval (CI) 1.12-1.30], job loss (RR 2.27, 95% CI 1.12-4.61), job insecurity (RR 1.64, 95% CI 1.36-1.96), high job demands (RR 1.14, 95% CI 1.08-1.20), low job control (RR 1.11, 95% CI 1.05-1.17), job strain (RR 1.32, 95% CI 1.29-1.36), workplace bullying (RR 1.78, 95% CI 1.16-2.73), and suicide. In terms of the evidence, we found moderate and low certainty for job loss and job insecurity, respectively. For other working conditions, certainty of evidence was considered very low or could not be assessed because of too few studies. Studies investigating suicide attempts were limited, and we only found very low evidence for workplace bullying and suicide attempt (RR 1.33, 95% CI 1.09-1.62, in a previously published meta-analysis). For all other conditions, we could not assess certainty of evidence of associations with suicide attempt. **Conclusions**: Although some working conditions may be risk factors for suicide, the number of studies is still too limited to allow for certainty of evidence on associations between specific working conditions and suicide.

Magnusson Hanson et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Employment; meta-analysis; organizational; psychosocial work environment; suicidal behavior; suicide; suicide attempt; systematic review; working condition.
Evidence Level: 1A
Link: https://www.sjweh.fi/article/4308

Psychological intervention for disputing irrational beliefs associated with work stress amongst tourism educators and mathematicians with hypertension

Background: Employees with hypertension face challenging job pressures that have a negative impact on their health, leading to ineffective and unsatisfactory work. Additionally, this can affect an organization's overall level of productivity. This study aimed to examine the effects of rational emotive behavior therapy (REBT) on stress among lecturers in tourism and hospitality management, educational scientists, and home economics and hospitality from state and federal universities who have hypertension, with a focus on the health and well-being of individual workers in specific university faculties. **Methods**: A randomized controlled study was conducted, involving 93 staff members from private, state, and federal universities. Two dependent measures were assessed at Times 1, 2, and 3. A repeated measures statistical analysis was used to evaluate the participants' responses. **Results**: Participants' stress levels and illogical beliefs significantly decreased as a result of the REBT intervention. Before and after the REBT session, the participants' reactions to stress and irrational beliefs differed significantly. The follow-up study's findings confirm the long-lasting benefits of REBT and show the intervention's long-term influence. **Conclusion**: The REBT intervention helps educators cultivate a positive mindset, decrease stress, and eliminate irrational beliefs.

Ejikeme et al. 2026.
Medicine, vol. 105, no. 38.
User License: *Creative Commons - Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/)*
Keywords: Home economics and hospitality; hypertension; lecturers; mathematics; rational emotive behavior therapy; stress; tourism and hospitality management.
Evidence Level: 2B

Link: https://www.ovid.com/jnls/md-journal/fulltext/10.1097/md.0000000000050776~psychological-intervention-for-disputing-irrational-beliefs

Changes in perceived psychosocial working conditions after psychotherapeutic consultation at work - exploratory post-hoc analyses from a randomized controlled trial

Background: Psychotherapeutic consultation at work (PT-A) is a low-threshold intervention providing early work-focused treatment to employees with symptoms of common mental disorders (CMD). This post-hoc analysis explores whether PT-A, compared with routine care, is associated with perceived reductions in job demands (i.e., quantitative and emotional demands, dissolution between work and private life) and improvements in job resources (i.e., decision authority, development opportunities, social support). **Methods**: The exploratory post-hoc analysis used data from a multicenter randomized controlled trial in Germany. Five-hundred-fifty employees with a contract of ≥ 15 h/week and symptoms or a diagnosis of CMD were randomized 1:1 to the intervention or control group. After one participant withdrew consent, 279 participants remained in the intervention and 270 in the control group. Both groups received basic clinical assessment. Up to 16 work-focused PT-A sessions were offered to the intervention group over nine months, including work-related assessments, work-focused cognitive behavioral therapy and, if needed, support during return-to-work. Perceived job demands and resources were measured before randomization and 24 months later and were not pre-specified as trial outcomes in the study protocol and trial registration. Multiple linear regression analyses examined group differences in perceived working conditions at follow-up, controlling for covariates at baseline (i.e., age, gender, education, occupation, study centre, depressive symptoms, sickness absence days). **Results**: Data from 231 participants were available for analysis (intervention: n = 137; control: n = 94; mean age: 46 years; 55% female). Participation in PT-A was associated with lower perceived emotional demands (b = 6.61, SE = 2.52, p = 0.009, adjusted p = .072) and dissolution (b = 5.05, SE = 2.52, p = 0.047, adjusted p = .164) at follow-up, but results did not remain statistically significant after Benjamini-Hochberg correction for multiple testing. No group differences were observed in perceived quantitative demands and job resources. **Conclusions**: Results may indicate that participation in PT-A is associated with long-term reductions in perceived emotional demands and dissolution, but not with improvement in perceived job resources. Confirmative research is needed given the exploratory study design and because findings did not remain statistically significant after adjustment for multiple testing.

Weber et al. 2026.
BMC Public Health, vol. 26 no. 1.
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Keywords: Job Demands-Resources model; mental health; occupational health; prevention; psychotherapy.
Evidence Level: 2B
Link: https://link.springer.com/article/10.1186/s12889-026-29388-5

Establishing key domains for measuring workplace mental health: The indicators of a thriving workplace survey

Purpose: The importance, value, and benefits of fostering mentally healthy workplaces are well established. The Indicators of a Thriving Workplace (ITW) questionnaire measures a range of individual psychological and organisational factors as lead indicators of workplace mental health. The current study aimed to develop a valid summary set of indicators or domains of workplace mental health to enable comparisons across industries and sectors nationally. **Methods**: Exploratory factor analysis and principal components analysis were sequentially performed on survey data from two independent samples selected from a nationally representative and large (n = 9,947) cohort of Australian workers. **Results**: Five domains of workplace mental health aligning with the integrated approach to workplace mental health emerged and were confirmed: Leadership, Connectedness, Safety, Work Design, and Capability. When average domain scores were compared across industry, small but statistically significant differences were identified. **Conclusion**: The validation of these domains positions the ITW questionnaire as the first comprehensive measure of workplace mental health and well-being that focuses on thriving as a positive construct for Australian workers. Further, industry-based Domain profiling could provide a basis for the prioritisation of efforts to improve workplace mental health, with successful initiatives and practices perhaps adaptable to

other industries. Interventions addressing workplace mental health are likely to be more successful when they are industry specific, although interventions responding to mental health challenges in the workplace, such as those tackling mental health-related stigma, may require less cross-industry tailoring.
Iles et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Factor analysis; industry; psychosocial health; workplace culture; workplace mental health
Evidence Level: 4A
Link: https://link.springer.com/article/10.1007/s10926-025-10302-6

Exposure to high emotional, quantitative and physical job demands. Is there a synergistic effect on risk of depressive disorder?

Objective: We examined prospective associations between three combinations of psychosocial and physical job demands and onset of depressive disorder and whether the combined effects of these demands exceeded what would be expected from their individual contributions (i.e. synergy, measured as departure from additivity). **Methods**: We used data from the 2012, 2014, 2016, and 2018 wave of the Work Environment and Health in Denmark study, including 18,860 employees without depressive disorder at baseline. Onset of depressive disorder at follow-up was assessed using the Major Depression Inventory (MDI; score ≥21). Exposures were high emotional demands, high quantitative demands, and high physical job demands, combined into three two-pair combinations. Prospective associations with depressive disorder were estimated as odds ratios (OR) and 95% confidence intervals (CI) adjusted for age, sex, education, job group, and cohort using logistic regression models. Additive interaction was assessed by the relative excess risk due to interaction (RERI) **Results**: Across all three combinations, combined exposure was consistently associated with the highest odds of onset of depressive disorder compared with the unexposed reference groups. The strongest association was observed for the combination of high quantitative and high physical job demands (OR 2.64; 95% CI 2.17 to 3.22), while the combination of high emotional demands and high quantitative demands showed a synergistic interaction beyond additivity (RERI 0.47; 95% CI 0.11 to 0.83). **Conclusion**: Simultaneous exposure to multiple psychosocial and/or physical job demands was associated with higher odds of onset of depressive disorder, with the combination of high emotional and high quantitative demands reflecting synergy beyond additivity.
Sørensen et al. 2026.
Journal of Affective Disorders, vol. 15.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Additive interaction; depressive disorder; job demands; physical work demands; psychosocial work environment; workplace mental health.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0165032726012930?via%3Dihub

Prevalence of work-related burnout and associated factors among police officers in the Silesian Voivodeship - the region with the highest urbanization rate and population density in Poland

Introduction: Occupational burnout is one of the most frequently analyzed psychosocial phenomena in the contemporary professional environment, posing a significant challenge for both individuals and entire organizations. The aim of this study was to examine the relationships between the level of occupational burnout and selected psychosocial factors, sociodemographic characteristics, and working conditions among police officers in the Silesian Voivodeship. **Methods**: The study was conducted in 2025 on a sample of 363 officers from 24 organizational units. An original survey questionnaire and the standardized Link Burnout Questionnaire (LBQ) were utilized. Data analysis included non-parametric tests, Welch's t-test, and a multiple linear regression model. **Results**: High levels of psychophysical exhaustion were found in 39.9% of the participants, and disillusionment with work in 49.6%. Pleasure derived from work emerged as the strongest protective predictor against exhaustion ($B = -4.88$; $p < 0.001$). Significant risk factors included poor workplace relationships ($B = 2.97$; $p < 0.001$) and experiences of workplace mobbing ($B = 1.34$; $p = 0.028$). Lack of team support proved to be a powerful stressor ($d = 0.71$). It was also demonstrated that a recovery deficit (only 1 day off per week) strongly increases exhaustion levels ($p < 0.001$). **Conclusions**:

Occupational burnout among Silesian police officers is strongly determined by relational and organizational factors. Systemic prevention should focus on improving organizational culture, eliminating mobbing, and ensuring adequate time for psychophysical regeneration.
Malinowska-Borowska et al. 2026.
Frontiers in Public Health, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Link Burnout Questionnaire (LBQ); Poland; burnout; police; stress.
Evidence Level: 4B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1917062/full

Mental health problems and suicidal behaviors in person-related work: A Swedish register-based cohort study

Objectives: Person-related work requires workers to interact with individuals who are not employed at the workplace, eg, clients or patients. Besides (i) the general demands of interpersonal contact, this can entail (ii) emotional demands and (iii) conflicts/quarrels. These three potential stressors may negatively affect workers' mental health. We examined the associations of these three dimensions of person-related work with the risk of mental health problems, including diagnoses of depressive, anxiety/stress-related and alcohol-/drug-use disorders, pharmacotherapy for such disorders, and suicidal behaviors, including deaths and suicide attempts. **Methods**: Around 3.6 million workers aged 20-60 years in Sweden in 2006 were included in the study. Dimensions of person-related work were assessed respectively using a job exposure matrix. Mental health and suicide outcomes in 2007-2020 were determined based on patient, drug, and death registers. Multi-variable Cox regression models were used. **Results**: Of the study participants, 1 481 900 individuals experienced at least one of the studied outcomes. Among women, high exposure to each dimension of person-related work was respectively associated with increased risks of the outcomes [hazard ratios (HR) of 1.04-1.27 for general contact with people, 1.16-1.41 for emotional demands, and 1.11-1.19 for conflicts/quarrels], after adjusting for potential confounders. Among men, a high exposure to each dimension was respectively associated with increased risks (HR of 1.11-1.16 for general contact with people, 1.10-1.23 for emotional demands, and 1.08-1.16 for conflicts/quarrels) of mental health diagnoses and pharmacotherapy. The associations with suicide deaths and attempts were not observed after adjusting for income and previous mental health problems and suicide attempts. **Conclusions**: Person-related work is associated with a slightly increased risk of mental health problems and suicidal behaviors among women and with mental health problems among men. Estimates seem to be strongest for emotional demands.
Pan et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Sweden; alcohol use disorder; anxiety disorder; depression; drug use disorder; emotional demand; human contact occupation; mental health; person-related work; register-based cohort study; stress-related disorder; suicidal behavior; suicide.
Evidence Level: 4B
Link: https://www.sjweh.fi/article/4316

The relationship between burnout, occupational accidents and workforce loss among resident physicians working at a university hospital

Objectives. Burnout has been shown to be associated with the risk of occupational accidents and workforce loss, and it has been reported that the initial signs of burnout among physicians begin during medical school or during residency training. This study therefore aimed to determine the prevalence of burnout and the relationship between burnout, occupational accidents and workforce loss among resident physicians working at a university hospital in Ankara, Türkiye. **Methods:** The cross-sectional study was conducted among 144 resident physicians in a university hospital using a face-to-face questionnaire focusing on burnout subscales, occupational accidents and absenteeism. **Results:** The study proved that having an occupational accident, the number of occupational accidents, the type of occupational accidents such as sharp injuries, exposure to blood and body fluids, and experiencing trip-and-fall incidents were associated

with burnout subscale scores (except personal accomplishment). No relationship was found between all other variables and burnout subscale scores. **Conclusion**: A relationship was identified between the occurrence of occupational accidents and the number of accidents experienced with the level of burnout. This finding suggests that interventions aimed at preventing burnout may also contribute to a reduction in occupational accidents. This provides evidence for future prospective and interventional studies.
Ercömert et al. 2026.
International Journal of Occupational Safety and Ergonomics, vol. 32, no. 3.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Burnout; mental health; occupational accident; resident physician; workforce loss.
Evidence Level: 4B
Link: https://www.tandfonline.com/doi/full/10.1080/10803548.2025.2600815

Working conditions and mental health of employees suffering from common mental disorders in Germany with special consideration to the migration generation

Purpose: This study examines working conditions, mental health and their association among mentally burdened employees in Germany attending psychotherapeutic consultation at work, considering first- and second-generation migrants. **Methods**: Baseline data from a randomized controlled trial on psychotherapeutic consultation at work (friaa study) were analyzed. Using χ^2- and two-sided t-tests and one-way ANOVAs, differences between individuals with and without migration background (MB) as well as individuals without MB and first- and second-generation migrants were assessed regarding working conditions (self-constructed questions, five scales of the COPSOQ, PSC) and depressive (PHQ-9), anxiety (GAD-2) and somatic symptoms (SSS-8). Associations between working conditions and mental health were calculated for the entire sample and separately for individuals with and without MB using linear regression analyses. **Results**: Among 549 participants (54.8% female, mean age: 45.9 years (SD = 11.0), 12.4% had a MB. Individuals with MB more often worked in jobs associated with lower socio-economic status (blue-collar work: p=.008, fewer subordinates: p<.001, less possibilities for development: p=.004). Poorer work environment (especially in individuals without MB) (all βs≥0.124, all ps≤0.008) and quantitative job demands (especially in individuals with MB) (all βs≥0.118, all ps≤0.071, partially only statistical trends) were associated with worse mental health. Higher possibilities for development (in individuals with and without MB) (all βs≥-0.102, all ps≤0.071), social support (all βs≥-0.111, all ps≤0.016) and psychosocial safety climate (all βs≥-0.104, all ps≤0.044) (both especially in individuals without MB) were related to better mental health. **Conclusion**: Findings suggest the importance of improving and tailoring working conditions to employees' needs, including consideration of MB.
Herold et al. 2026.
BMC Psychology, vol. 14, no. 1.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Mental health; Migrants; Migration background; Occupational health; Working conditions; Workplace.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1186/s40359-026-05486-2

Between support and uncertainty: employers' perspectives on workplace inclusion of people with mental health problems

Background: Despite increasing awareness of mental health in the workplace, people with mental health problems continue to face substantial barriers to labour market participation. While stigma-related explanations have been widely addressed, less is known about how employers respond to mental health problems within the constraints of everyday organisational practice. This study explores employers' perspectives on workplace inclusion, with a particular focus on ambivalences, facilitating orientations, and expectations towards employees with mental health problems. **Methods**: This study reports findings from the first, qualitative phase of a participatory mixed-methods research project conducted in Southern Germany. Between November 2022 and August 2023, we conducted 29 semi-structured interviews with employers from companies across different sectors. Data was analysed using structured qualitative content

analysis. **Results**: Employers described ambivalent orientations towards the inclusion of people with mental health problems. While mental health issues were seen as increasingly normalised and framed within broader societal developments, employers reported uncertainties regarding work organisation, team functioning, and predictability. Facilitating orientations included social responsibility, recognition of the health-promoting role of employment, pragmatic responses to labour shortages, and positive prior experiences. At the same time, workplace participation was often described as depending on employees' transparency regarding work-related limitations, individual responsibility for managing mental health, and disclosure as a prerequisite for employers' support and mutual trust. **Discussion**: Workplace inclusion of people with mental health problems appears to depend not only on employers' attitudes but also on practical considerations related to work organization and team functioning. Employers' perspectives reflected ambivalence, balancing commitments to participation with concerns about predictability, fairness, and collective functioning. Expectations regarding disclosure, responsibility, and transparency were central to perceived feasibility of support. **Conclusions**: Addressing these organisational dynamics may help inform more context-sensitive strategies to promote sustainable labour market participation.
Krumm et al. 2026.
BMC Mental Health Services Research, vol. 26, no. 1.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Disclosure; employers; labour market participation; mental disorders; qualitative research; stigma; workplace.
Evidence Level: 5B
Link: https://link.springer.com/article/10.1186/s12913-026-15665-x

Bullying, Harassment and Occupational Violence

Workplace mistreatment and problem drinking among physicians in Sweden: A longitudinal study

Objectives: Recent studies report high levels of workplace mistreatment among Swedish physicians. Various types of mistreatments have been correlated with adverse alcohol use. This study investigated the impact of workplace mistreatment (ie, threats and violence, harassment and incivility) on subsequent problem drinking among physicians in Sweden. **Methods**: Data from the Longitudinal Occupational Health survey in Healthcare Sweden (LOHHCS) were used, including 1618 clinically active physicians aged <67 years. Baseline data were collected between March and June 2022, and follow-up data between October and December 2023. Associations between three different types of workplace mistreatment and problem drinking were analyzed using logistic regressions adjusted for relevant confounders. **Results**: Exposure to threats and violence [odds ratio (OR) 2.78, 95% confidence interval (CI) 1.48-5.20] and workplace incivility (OR 3.25, 95% CI 1.24-8.54), respectively, significantly predicted problem drinking at follow-up. No significant association was found between harassment and problem drinking. When adjusting for co-occurring forms of mistreatment, only threats and violence remained a significant predictor. **Conclusion**: This study reveals a significant association between exposure to threats and violence at work and workplace incivility, respectively, and subsequent problem drinking among physicians. The findings underscore the need for interventions to prevent mistreatment within the healthcare system, as well as treatment and support for individuals who have been exposed.
Peláez Zuberbuhler et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Sweden; alcohol; healthcare; longitudinal study; physician; problem drinking; threat; violence; workplace mistreatment.
Evidence Level: 4B
Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC13550692/

Onset of workplace bullying and violence and changes in health-related behaviors: A multi-cohort study

Objectives: The aim of the study was to examine whether exposure to workplace bullying and violence is associated with changes in health-related behaviors over time. **Methods**: This multi-cohort study included four cohorts from Sweden, Denmark, Finland, and Norway, comprising 78 624 participants aged 18-65 years at baseline between 2004 and 2016. The data were analyzed using an emulated trial design. The main analysis ascertained both onset of workplace bullying and violence (exposures) and changes in health-related behaviors (outcome) using data from time TX and TX+1 (concurrent analysis). To clarify temporality, changes in health-related behaviors were further calculated at time TX+1 to TX+2 (longitudinal analysis). We applied logistic regression with generalized estimating equations. Subgroup differences by sex were examined. **Results**: Among 125 854 participant-observations across 2-3 study phases of the 78 624 participants, 6-8% experienced onset of workplace bullying and 9-14% reported onset of workplace violence over 1-2 years. The strongest association was observed between onset of violence and becoming obese, with an odds ratio (OR) of 1.13 [95% confidence interval (CI) 1.00-1.27] in the concurrent and 1.31 (95% CI 1.05-1.64) in the longitudinal analysis. In addition, onset of bullying (OR 1.23, 95% CI 1.06-1.44) and violence (OR 1.11, 95% CI 0.99-1.24) were concurrently associated with initiation of excessive alcohol use, with weaker associations in the longitudinal analysis. Exposure-response relationships were observed for all aforementioned associations and findings were consistent across cohorts. Men were more likely to initiate excessive alcohol use than women after experiencing violence (P=0.008). **Conclusion**: Exposure to workplace bullying and violence was associated with adverse changes in health-related behaviors.

Xu et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Bullying; health-related behavior; multi-cohort study; stress; violence; workplace bullying; workplace violence.
Evidence Level: 4B
Link: https://www.sjweh.fi/article/4302

Exposure to workplace bullying and violence/threats of violence and subsequent working life expectancy among older workers: A Swedish prospective cohort study

Objectives: This study aimed to quantify possible associations between exposure to workplace bullying and violence, or threats thereof, and working life expectancy (WLE) among older workers in Sweden.
Methods: We conducted a prospective cohort study using data on 12 920 individuals in analyses of workplace bullying and 12 903 individuals in analyses of violence. Participants, aged >50 at baseline, were obtained from the Swedish Longitudinal Occupational Survey of Health, using data from 2008 to 2020. We applied continuous-time multistate Markov models to estimate the average number of years that individuals could be expected to work beyond the age of 50, comparing those exposed to workplace bullying or workplace violence/threats of violence to those unexposed. **Results**: In the unadjusted analysis, exposure to workplace bullying and workplace violence/threats of violence was associated with shorter WLE among older workers [bullying: -0.42 years, 95% confidence interval (CI) -1.23-0.01; violence: -0.42 years, 95% CI -1.06-0.01]. After controlling for sex and occupational level, WLE at age 50 was -0.56 years among those exposed to workplace violence (95% CI -1.02- -0.10) compared with the unexposed. The esti mate for workplace bullying was -0.63 years (95% CI -1.39-0.14). **Conclusion**: Exposure to workplace violence or threats of violence was associated with fewer average expected years in work from age 50. This suggests that prevention of workplace violence could contribute to extended working lives. The association between workplace bullying and WLE was of similar magnitude but not statistically significant.

Holmgren et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Sweden; labor market participation; occupational health; older worker; prospective cohort study; psychosocial working condition; violence; working life expectancy; workplace bullying; workplace violence.
Evidence Level: 4B

Link: https://www.sjweh.fi/article/4320

Occupational trauma and probable PTSD among sworn and civilian police employees

Background: Police personnel are frequently exposed to potentially traumatic events (PTEs), increasing their risk for posttraumatic stress disorder (PTSD). While much research has focused on sworn police officers (SPOs), less is known about civilian employees (Civilians) who work alongside them. This study examined trauma exposure and probable PTSD in both groups within the Norwegian Police Service (NPS). **Methods**: A random sample of 4,000 employees received an invitation to a web-based survey in 2021, of which 560 responded (61.8% SPOs, 38.2% Civilians). Trauma exposure was assessed with the Life Events Checklist for DSM-5 (LEC-5), and probable PTSD was measured with the PTSD Checklist for DSM-5 (PCL-5). Logistic regression analyses examined group differences in trauma exposure and PTSD prevalence, adjusting for sociodemographic covariates. **Results**: SPOs reported significantly greater overall lifetime trauma exposure than Civilians (87.3% vs. 69.2%) and substantially higher occupational trauma exposure (72.0% vs. 21.5%). Probable PTSD was 5.6% among civilians and 2.6% among sworn officers; the crude group difference was not statistically significant (OR = 0.45, 95% CI [0.19, 1.09]). However, after adjusting for different trauma exposure indicators, the association reversed and became statistically significant (adjusted ORs = 0.12-0.16), consistent with a suppressor effect whereby the higher exposure among sworn officers masked their relatively lower risk of PTSD. **Discussion**: This is the first study to directly compare trauma exposure and probable PTSD among SPOs and Civilians in the NPS. While SPOs reported markedly higher trauma exposure, Civilians also faced substantial risks despite lower levels of direct occupational trauma. PTSD prevalence in both groups was lower than commonly reported in international police samples and broadly comparable to estimates from the Norwegian general population. Nevertheless, the high levels of trauma exposure underline that posttraumatic symptoms remain an important occupational health concern.

Lau et al. 2026.

European Journal of Psychotraumatology, vol. 17, no. 1.

User License: *Creative Commons - Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/)*

Keywords: PTSD; Police; TEPT; civilians; occupational health; trauma exposure;.

Evidence Level: 4B

Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC13577298/

Psychosocial Issues

The job demands-resources seesaw: Dynamic interactions between task demand types and personal resources

Despite extensive research on the job demands-resources (JD-R) model, the interactions between personal resources and job demands remain insufficiently understood, particularly regarding their dual role in shaping perception and appraisal versus resource depletion. This study addresses this critical gap by exploring how mindfulness and psychological capital (PsyCap) operate within the JD-R framework. Specifically, we examined whether mindfulness and PsyCap alter individuals' perception and appraisal of job demands or, conversely, whether job demands deplete individuals' personal resources. The presented studies on employees experimentally manipulated quantitative, cognitive, and emotional demands to examine their interactions with personal resources. Testing the perception and appraisal effect in Study 1 (N = 253), self-efficacy and resilience predicted lower perceived demands and hindrance appraisals, while mindfulness predicted higher challenge appraisals and emotional demands. Testing the depleting effect in Study 2 (N = 207), quantitative and cognitive demands depleted self-efficacy, whereas emotional demands were associated with higher state mindfulness. Together, these studies reveal a complex seesaw effect, suggesting that specific demand types interact with particular resources to shape employees' work experiences. The findings highlight the need for tailored interventions that both cultivate personal resources and optimize the demand-resource balance to foster performance and well-being at work.

Moder et al. 2026.

Acta Psychologica, vol. 269.

User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Experimental study; job demands; mindfulness; personal resources; psychological capital.
Evidence Level: 3B
Link: https://www.sciencedirect.com/science/article/pii/S0001691826012758?via%3Dihub

Evaluation of occupational stressors among nuclear medicine radiographers in South Africa

Introduction: Occupational stress harms the mental and physical health of healthcare workers, affecting their quality of life and work. Although occupational stress has been widely studied among radiological professionals, research focused specifically on nuclear medicine radiographers, particularly in South Africa, remains limited. This study aimed to identify and describe perceived occupational stressors among nuclear medicine radiographers in South Africa. **Methods**: A cross-sectional quantitative descriptive research design was used. An online-adapted Nuclear Medicine Occupational Stress Questionnaire, using a five-point Likert scale, was distributed via WhatsApp, Facebook, and the South African Society of Nuclear Medicine social platform to nuclear medicine radiographers employed in private and government sectors in South Africa. Participants were selected using purposive sampling supplemented by snowball sampling. Data were analyzed using descriptive and inferential statistics. **Results**: Sixty-three responses were received, yielding a response rate of 23.8%; most participants were employed in the private sector (68.3%). The most frequently reported perceived occupational stressors rated as at least moderately stressful were equipment malfunction (96.8%), non-cooperative patients during examinations (95.2%), lack of managerial support (93.7%), infrequently performed examinations (92.1%), and high daily workload (90.5%). Most demographic characteristics were not significantly associated with the highest-ranked stressors. A weak but significant association was observed between duration of employment at the current employer and perceived stress related to lack of managerial support (Spearman's $\rho = 0.288$, $p = 0.02$). **Conclusion**: The findings suggest that perceived occupational stressors among participating nuclear medicine radiographers were mainly related to organizational, operational, and service-delivery factors rather than specific demographic variables. **Implications for practice:** Workplace strategies that strengthen managerial support, staffing, equipment maintenance, resource management, and operational processes may help alleviate stress associated with occupational stressors in nuclear medicine practice.
Swartz et al. 2026.
Radiography, vol. 32, no. 6.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Healthcare workers; nuclear medicine radiographers; occupational stress; occupational stressors; radiography professionals.
Evidence Level: 4B
Link: https://www.radiographyonline.com/article/S1078-8174(26)00166-5/fulltext

Disability, job satisfaction, and workplace accommodations: Evidence from the healthcare industry

Purpose: This paper examines the extent to which job satisfaction, requests for accommodations, and the likelihood of a request being granted vary by disability status. We further analyze whether being granted workplace accommodations moderates the relationship between work satisfaction and disability. **Methods**: We use a novel survey of healthcare workers centered on disability status, perceptions of work experiences, and the provision of accommodations. The data are used in a descriptive analysis and multiple regressions to examine the moderating effect of accommodations on the relationship between disability and indicators related to job satisfaction. **Results**: Results show that people with disabilities have more negative perceptions of their work experiences than people without disabilities. Although people with disabilities are more likely to request accommodations than people without disabilities, they are equally likely to have their requests wholly or partly granted. Regression results indicate that the negative relationships between disability status and most measures of work experience are largely eliminated when accounting for the disposition of accommodation requests. The main exception is turnover intentions, in which the adverse relationship with having a disability does not change even when an accommodation is granted. Partly granting accommodations is helpful only for some metrics of job experience. **Conclusion**:

Our paper shows that fully granting accommodations can go a long way to closing the disability gap in job satisfaction between people with and without disabilities.
van der Meulen Rodgers et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Accommodations; disability; healthcare; job satisfaction; stigma.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1007/s10926-025-10316-0

The impact of compassion fatigue and work-life balance on life satisfaction: A study of healthcare professionals in Türkiye

Background: Healthcare professionals are frequently exposed to intense emotional demands that may lead to compassion fatigue. Challenges in maintaining work-life balance also play a significant role in shaping life satisfaction. Yet, studies examining their combined effects on healthcare professionals' life satisfaction remain limited. **Objective**: This study aims to examine the impact of compassion fatigue and work-life balance on the life satisfaction of healthcare professionals. **Methods**: This cross-sectional quantitative study collected data from 301 healthcare workers at Kahramanmaraş Sütçü İmam University Hospital in Türkiye, using validated psychometric scales. Analyses included reliability testing, normality assessment, confirmatory factor analysis, and structural equation modeling. **Results**: Changes in life satisfaction were 11% attributable to compassion fatigue (R2 = 0.115). The occupational burnout subdimension negatively affected life satisfaction (ß = -0.363; t = -4.060; p < 0.001), with each unit increase resulting in a 0.175-point decrease in life satisfaction. Nine percent of the variation in life satisfaction (R2 = 0.099) was explained by the positive impact of work on life (ß = 0.190; t = 2.739; p = 0.007) and the positive impact of life on work (ß = 0.155; t = 2.377; p = 0.018). However, the negative impact of work on life caused a 0.132-point reduction in life satisfaction (ß = -0.151; t = -2.385; p = 0.018). Overall, compassion fatigue and work-life balance together explained 12% of the variation in life satisfaction (R2 = 0.125; F = 21.332; p < 0.001). **Conclusion**: Findings underscore the importance of alleviating emotional burden and implementing institutional policies that support work-life balance to enhance healthcare professionals' life satisfaction. However, because this study was conducted in a single hospital and employed a convenience sampling method, generalizability of the results is limited.
Çiftçi Kıraç et al. 2026.
WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 85, no. 1.
User License: *Creative Commons - Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/)*
Keywords: Burnout; health personnel; occupational stress; personal satisfaction; quality of life; work.
Evidence Level: 4B
Link: https://journals.sagepub.com/doi/pdf/10.1177/10519815251410103

Associations between work stressors, measured by the demand-control-support and effort-reward-imbalance models, and diurnal cortisol concentrations in saliva

Purpose: Chronic exposure to work-related mental stressors has been linked to higher risk of disease, possibly mediated by effects on the normal diurnal cortisol concentration pattern due to allostatic overload. The purpose of this study was to examine if the diurnal cortisol pattern changed with exposure to work-related stressors according to the demand-control-support (DCS) and the effort-reward-imbalance (ERI) stress models. **Methods**: In 2007, 4467 Danish public service employees participated in a study on job stress and mental health, and 3217 were reexamined in 2009, using identical methods. DCS and ERI-exposures were assessed from self-administered questionnaires. Cortisol concentrations were assessed from saliva samples, one in the morning and one in the evening. Saliva sampling time distributions enabled us to estimate exposure effects on cortisol concentration patterns for the first two hours after awakening and for nine hours in the evening, and on the peak-to-nadir slope. Associations between the exposures and the diurnal cortisol pattern were examined by linear mixed model analyses, separately for DCS- and ERI-exposures, with mutual adjustment for main and composite variables of the stress model and a large set of potential confounders. **Results**: DCS- and ERI-exposures were not associated with changes in the diurnal

cortisol pattern. In contrast, many associations between potential confounders and cortisol were statistically significant, including the diurnal slope pattern assessed from saliva sampling times. **Conclusions**: We found no support for the hypothesis that DCS- or ERI- exposures are associated with changes of the diurnal pattern of cortisol concentrations in saliva samples.
Mikkelsen et al. 2026.
International Archives of Occupational and Environmental Health, vol. 99, no. 7.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Allostatic load; demand-control-support; diurnal cortisol pattern; effort-reward-imbalance; job-strain.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1007/s00420-026-02209-3

Fostering Work Participation

Return to Work

Effect of cognitive behavioural stress management on return-to-work amongst sick-listed employees

Background: The literature provides contradictory information on the effect of cognitive behavioural therapy (CBT) interventions on return to work (RTW) for patients on sick leave due to work-related stress. **Aim:** We compared the cumulative number of sick leave weeks between a cohort of patients who received a CBT-based stress management intervention in the period 2011-2018 (N = 331) and a cohort of patients from 2010 to 2011 (N = 221) who did not receive the intervention. We also compared time until sustainable RTW (3 consecutive months of no sick registrations) between the cohorts. **Methods**: Registry data on sickness absence were obtained from the national DREAM register (Danish Public Transfer Payments Database). The cumulative time of registered sick leave in DREAM until first sustainable period of RTW was visualized using Kaplan-Meier plots. A Cox proportional hazard model was used to compare the effectiveness of the intervention relative to the comparison cohort and was reported as hazard rate ratio. **Results**: The intervention cohort's cumulated number of weeks in DREAM across the total period from 0 to 36 months (median 29 range 26-32) was lower than that of the comparison cohort (median 40 range 34-52), (P = 0.005), corresponding to a 14% (95% CI 0.04-0.24) reduction. For RTW, a hazard ratio rate of 1.25 (95% CI 1.02-1.54) favouring the intervention group was found (P = 0.034). **Conclusion**: The CBT stress management intervention significantly reduced the amount of sick leave and reduced the time until sustainable RTW for the intervention cohort compared to the comparison cohort.
Bond et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: CBT; Job; RTW; Sick leave; Stress management.
Evidence Level: 3B
Link: https://link.springer.com/article/10.1007/s10926-025-10306-2

Return to work after surgery for cervical radiculopathy: Prospective data from a Swedish nationwide cohort of 3929 patients

Background and objectives: Surgical decompression is commonly required to relieve symptoms of cervical radiculopathy and allow for functional recovery. There are only a handful of studies analyzing return-to-work (RTW) outcomes after cervical spine surgery for cervical radiculopathy. This study seeks to elucidate RTW outcomes and to identify predictors preventing RTW in patients surgically treated for cervical radiculopathy in a Swedish nationwide prospective registry. **Methods**: A nationwide cohort analysis was conducted using prospectively gathered data from the Swedish Spine Registry. All patients with documented postoperative outcomes focusing on 1-year RTW rates were included. To identify predictive factors influencing RTW at 1 year postoperatively, separate univariable and multivariable logistic regression models were developed, incorporating demographic, functional and clinical, as well as preoperative and postoperative data, and occupational characteristics. **Results**: A total of 3929 patients were included with

an average age of 49.5 years, with most patients working in moderate- or high-intensity jobs and nearly half on sick leave before surgery. Most surgeries were elective, and an anterior approach was preferred. At the 1-year mark after surgery, 85% of patients had returned to work, with full-time RTW reaching 67% and part-time RTW 18%. In this cohort, 15% had not returned to work at all. Higher age, previous cervical spine surgery, high job intensity, preoperative full-time sick leave and full-time sickness benefits, longer preoperative arm pain durations as well as higher preoperative Neck Disability Index, and lower EuroQOL 5 dimensions scores were independently associated with a reduced likelihood of RTW at 1 year postoperatively. **Conclusion**: Eighty-five percent of the patients surgically treated for radiculopathy RTW within 1 year. Higher age, jobs with greater physical demands, longer duration of arm pain, higher preoperative neck disability index and lower EuroQOL 5 dimensions scores, as well as being on full-time sick leave, were all linked to a reduced chance of RTW.

El-Hajj et al. 2026.

Neurosurgery, vol. 99, no. 3.

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Keywords: Cervical radiculopathy; return to work; spine surgery

Evidence Level: 4B

Link: https://www.ovid.com/jnls/neurosurgery/fulltext/10.1227/neu.0000000000003927~return-to-work-after-surgery-for-cervical-radiculopathy

The experience of return to work among people with persistent symptoms following a concussion: An interview study

Purpose: This study aimed to explore the experiences of Danish adults experiencing persistent symptoms following a concussion with a focus on their return to work (RTW) process. **Methods**: We employed a phenomenological-hermeneutic approach, using semi-structured interviews with seven persons with persistent symptoms following a concussion from two Danish municipalities. Data was analyzed using reflexive thematic analysis. **Results**: The analysis derived four main themes: (1) The importance of understanding and consideration from others. The participant's quality of life and RTW outcomes were influenced by the level of understanding and consideration they received from others. (2) Balancing needs and limitations. The participants struggled to balance their desire to work with their limited ability, which resulted in feelings of pressure and guilt towards their families. (3) Experiencing random support. The participants experienced random support from stakeholders and lack of guidance from the healthcare system. (4) A sense of loneliness, due to their inability to tolerate being around others. **Conclusion**: Recognition in daily life seems to play a key role in the RTW process for individuals with persistent symptoms following a concussion. They struggle to balance their limitations to match their desire to both work and family life. The support they received was often random and they felt lonely. The findings reflect the participant's desire for structured and recognition-based rehabilitation and support to enhance their daily lives and facilitate the RTW process.

Vierø et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 3.

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Keywords: Health care; mild traumatic brain injury; persistent symptoms; rehabilitation; return to work.

Evidence Level: 5B

Link: https://link.springer.com/article/10.1007/s10926-025-10305-3

Return to work or not: The paths to psychiatric disability and back

Objectives: Mental health-related work disability has increased in Europe, despite efforts to promote individuals´ work ability. We examined individuals´ occupational status before and after a psychiatric disability pension (DP). **Methods**: The study comprises individuals granted a DP for the first time between 2010 and 2012 in Finland (N = 18,373). We used modern methods to cluster the sequences of individuals´ occupational status before and after temporary (n = 8615) or permanent (n = 9758) psychiatric DP. We compared socioeconomic, illness and health care system-related factors between nine groups, formed by sequence analysis utilizing multinominal regression analysis. **Results**: The analysis identified typical groups of temporary pensioners: after steady working careers, periods of unemployment and from mixed states.

Severity of health and mental health problems, socioeconomic and occupational status, pension system-related factors as well as treatment or rehabilitation varied between the groups. Individuals with temporary DPs (tDP) appeared mainly to either remain disabled (74% of the study tDP) or return to the same status they had before disability: to work (17%) or unemployment (8%). A steady working career, high education and received psychotherapy and rehabilitation all promoted returning to work. Among young adults, severity of the illness and lack of occupational education were risk factors for long-term disability. **Conclusions**: Among those with tDP, circles of disadvantage may exist. They relate to unemployment, poor mental and somatic heath, low education, poverty, and failure of rehabilitative efforts. Especially young adults with severe mental disorders require not only rehabilitation but also educational support.
Rissanen et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Disability pension; mental disorder; sequence analysis; unemployment; work disability.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1007/s10926-025-10312-4

Facilitators and barriers for a stepped care approach to promote return to work of employees with distress: A multi-perspective qualitative study

Purpose: A stepped care approach, beginning with a low-intensity e-Health program followed by a high-intensity Participatory Approach led by a return-to-work (RTW) coordinator is a promising intervention to promote RTW of employees on sick leave with distress. As this approach is new, determinants of its successful implementation remain unknown. This study aimed to identify the potential facilitators and barriers for a stepped care approach to promote RTW of employees with distress, from the perspective of employees, employers, and occupational physicians. **Methods**: A qualitative study was performed consisting of individual semi-structured interviews with 10 employees, 5 supervisors, and two focus groups with 15 occupational physicians. The verbatim transcripts were inductively thematically coded. The Consolidated Framework for Implementation Research (CFIR) was applied to classify themes within its domains. **Results**: Themes were constructed belonging to either the implementation or the content of the stepped care approach, falling within the CFIR domains "innovation," "outer setting," "inner setting," and "characteristics of the individual." From all three stakeholder groups, identified facilitators were the tailored program, enabling task adjustments, and the RTW coordinator to stimulate a good communicative relationship between employee and supervisor. Barriers identified were the timing of the stepped care approach, integrating the approach in the current RTW system, and low digital skills. **Conclusion**: Both facilitators and barriers were found for the implementation of the stepped care approach. This underlines the importance of an adaptive implementation strategy that takes into account workplace dynamics and tailored approaches to support the stakeholder groups' needs.
Lettinga et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Distress; mental health; rehabilitation; return to work; sickness absence; stepped care.
Evidence Level: 5B
Link: https://link.springer.com/article/10.1007/s10926-025-10301-7

What works (or doesn't) in return to work after physical injury? A Qualitative study on the perspectives of trauma patients and health care professionals on barriers and facilitators in return to work

Purpose: Return to work (RTW) after physical injury may be challenging. This study aims to gain insight into barriers and facilitators in RTW, using a multi-stakeholder perspective from trauma patients with diverse injuries and health care professionals (HCPs). **Methods**: Three focus groups (n = 13) and four interviews were conducted with patients who sustained an extremity injury, spinal injury, or traumatic brain injury. Four focus groups (n = 19) were conducted with HCPs (e.g., occupational physicians, trauma surgeons). Data were transcribed verbatim and thematically analyzed for patients and HCPs separately. **Results**: Both patients and HCPs emphasized that RTW can be influenced by the extent to which core work tasks are

affected by the injury. Barriers in RTW related to lack of RTW follow-up care, limited consultation time, and lack of support in the work environment. Shared facilitators were found in work not affecting the injury, and when adequate support is provided by HCPs and the work environment. While patients and HCPs shared similar ideas, perspectives diverged on RTW follow-up care, provided by HCPs in hospital. HCPs in hospitals perceive physical recovery as their core task instead of RTW follow-up care, which is perceived by patients to detract attention to life after injury. **Conclusion**: According to patients and HCPs, regardless of the injury, the combination of injury type and job type influences RTW. Across injuries, receiving RTW follow-up care from HCPs in hospital was often missed, while perceived to facilitate RTW. Tailored RTW information could be useful to patients in resuming life after injury.

de Groot et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 3.

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Keywords: Follow-up care; recovery; return to work; trauma; vocational rehabilitation.

Evidence Level: 5B

Link: https://link.springer.com/article/10.1007/s10926-025-10309-z

Physicians' experiences with life-threatening illness and return to work: A qualitative study

Importance: There is a paucity of research on the experiences of physicians who attempt to transition back to work after a life-threatening illness or medical event. Given ongoing shortages, support of these physicians can impact workforce sustainability. Understanding the experience of physicians during this time of transition and the support that they need is essential. **Objective**: To elucidate the individual experiences of physicians who have had life-threatening illnesses or medical events, including their attempts to return to work and the tensions they encountered. **Design, setting, and participants: This** qualitative study used narrative inquiry to conduct semi structured interviews with physicians who (1) experienced a life-threatening illness or medical event, (2) were in active clinical practice as a board-certified physician at the time of diagnosis of the illness or medical event, and (3) attempted to transition back to work (successfully or unsuccessfully). Participants were solicited through broad-reaching emails across professional networks, advertisement in institutional newsletters, and posting on institutional advertisement boards. Interviews occurred from October 1, 2024, to May 31, 2025, virtually or in-person, according to participant preference. Data were analyzed using narrative analytic approaches. **Results**: Twenty-two physicians participated (age range, 43-77 years; 12 [55%] female). Participants described how their professional and patient identities often clashed. Tensions arising from this clash clustered around 5 thematic categories: loss of authority or control, dismantling the illusion of invincibility, identity questioning and reformation, knowledge as a benefit and a burden, and institutional practices as moderators for returning to work. The leave policies, supports offered, and sensitivity of the leadership teams were key in participants' abilities to return to work and how they felt about themselves during and after their return. **Conclusions and relevance:** This qualitative study found that physicians with life-threatening illness often experienced clashes in their professional and personal identities. This study's results suggest that health care institutions should consider shifting from procedural to relationship-centered return-to-work policies and interactions during this critical time of transition to better support and retain physicians in the workforce.

Ellison et al. 2026.

JAMA Network Open, vol. 9, no. 9.

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Keywords: Illness; return to work; physician.

Evidence Level: 5B

Link: https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2853850

Facilitating return to work through a broader perspective on vocational rehabilitation: Insights from patients with stress-related disorders

Background: Exhaustion disorder (ED) is a prevalent cause of sick leave in Sweden, and support from employers appears to facilitate return to work (RTW). The aim of this study was to explore and highlight what patients diagnosed with ED thought would have been beneficial for their RTW, on the individual level,

on the workplace level and at the organisational level. **Methods**: Twenty patients were invited to participate in an interview conducted seven years after they sought care. The semi-structured interviews were transcribed verbatim and analysed using inductive content analysis. **Results**: The analysis revealed an overarching theme "A need for a holistic view of the RTW process" and three main categories emerged: "The importance of a well-prepared organisation", "What characterises a good leader?" and "Meeting the needs of each employee". Important findings were that adjustments are warranted on an organisational level. Leadership qualities such as having a supportive approach and authority to make changes were highlighted. On an individual level, influence on their work situation and tailored adjustments was essential. For most patients change of work situation, such as change of workplace, work tasks and reduced working hours were necessary. **Conclusion**: To facilitate RTW for patients with ED, it is essential to have a holistic approach that recognises necessary organisational changes, management support and individually tailored adjustments.

Beno et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 3.

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Keywords: Exhaustion disorder; individually tailored adjustments; management support; organisational changes; return to work.

Evidence Level: 5B

Link: https://link.springer.com/article/10.1007/s10926-025-10311-5

Presenteeism and Absenteeism

Estimating absenteeism associated with alcohol, illicit substance, and tobacco use: A nationally representative study of Australian workers

Introduction: Substance use is common among employed people and has the potential to negatively impact productivity and worker health. However, the literature is inconclusive regarding the extent to which substance use impacts absenteeism. This study sought to extend the literature by investigating the relationship between substance use and absenteeism in the Australian workforce. **Methods**: The analysis included N = 12,557 employed respondents of the 2022-23 National Drug Strategy Household Survey. We employed quasi-Poisson models to examine the impact of heavy episodic drinking (HED), illicit substance use, and tobacco smoking on work absences. **Results**: In fully adjusted models, workers who engaged in weekly illicit substance use exhibited significantly elevated absenteeism rates (OR = 1.48, 95% CI [1.08, 2.03]) when compared to abstainers. This finding suggests that each worker who used illicit substances weekly was absent from work for an additional 3.6 days (95% CI [0.52, 6.61]) annually in comparison to those who abstained. HED engagement and smoking were not significantly associated with absenteeism. **Discussion and conclusions:** This contemporary Australian study provides more refined insights into the relationship between varying levels of substance use and absenteeism at the population level. Findings illustrate the substantial productivity burden attributable to substance use, reinforcing the importance of workplace-targeted interventions and health policies to mitigate substance use and its effects on productivity and worker health.

Di Censo et al. 2026.

International Journal of Drug Policy, vol. 155.

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Keywords: Binge drinking; drug use; NDSHS; occupational health; tobacco use; work absence; workplace health promotion.

Evidence Level: 4A

Link: https://www.sciencedirect.com/science/article/pii/S0955395926002719?via%3Dihub

Cluster analysis reveals subgroups with different risk profiles and sickness absence patterns in an occupational health cohort

Purpose: Using unsupervised and supervised machine learning methods, we aimed to identify clinically relevant groups of employees with similar characteristics and analyze the association of long and short sickness absence periods with these groups. **Methods**: The participants were 12,099 employees of various

occupations in Finnish companies. The data comprised 104 variables from medical records including data on sickness absences and a questionnaire used between 2011 and 2019 in health examinations. The latent dimensions for the employees were defined by principal component analysis to reduce the number of variables. Clusters were calculated using the K-means algorithm from datapoints expressed by the resulting five principal components. Logistic regression analyses were used to assess the associations of the clusters with long (> 30 days) and repetitive short (1-10 days) sickness absence (SA) episodes. **Results**: Employees in cluster one indicated positive managerial performance and workplace atmosphere, and employees had the least of both short and long SA. Cluster two indicated deficiencies related to managerial performance and workplace atmosphere. Cluster three had deficiencies mainly related to mood and depression and cluster four had cardiovascular diseases. Employees in cluster five reported many symptoms, especially dizziness and sensory symptoms, and had the highest occurrence of repetitive short SA. Cluster six indicated deficiencies related to work ability and had the highest occurrence of a long SA episode during follow-up. **Conclusion**: Unsupervised and supervised machine learning methods identified six clinically coherent employee clusters, providing information on typical combinations of characteristics and risk profiles of sickness absence.

Anttila et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 3.

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Keywords: Employee characteristics; occupational health; screening; unsupervised learning; work disability.

Evidence Level: 4B

Link: https://link.springer.com/article/10.1007/s10926-025-10319-x

Sick leave after transient ischemic attack among working-age adults in Sweden: A register-based cohort study

Background: A transient ischemic attack (TIA) is a brief episode of neurological dysfunction caused by focal brain or retinal ischemia, with symptoms resolving within 24 hours and without evidence of acute infarction. This study aims to investigate patterns of sick leave before and after TIA in working-age adults compared with matched general population controls. **Methods**: This register-based cohort study included all individuals aged ≤66 years treated for TIA in Gothenburg, Sweden, between 2014 and 2019, and age- and sex-matched general population controls (4:1). Data from national registers were used to assess sick leave the year before and after the index event. Logistic regression was used to model associations of sick leave after TIA. **Results**: 347 individuals with TIA (median age 59 years; 40.6% women) and 1,388 controls were included. Individuals with TIA had more days on sick leave than controls during the year before the event (mean 26 [SD 78] vs. 14 [SD 55], $p < 0.001$), and increased by 39 days during the year after TIA compared with the year before (95% CI 28-50 days, $p < 0.001$). The number of individuals on sick leave peaked 14 days after TIA (35.7% vs. 3.4% controls) and remained elevated at 1 year (11.5% vs. 3.8%). The most common registered sick leave diagnoses 14 days after the event were TIA (43%), stroke (12%), and mental health conditions (13%). Higher income (middle tertile: adjusted OR 2.54, 95% CI 1.22-5.29; highest: 2.11, 1.03-4.34) and employment (adjusted OR 3.11, 1.23-7.88) were associated with sick leave at 14 days. **Conclusions**: Over one-third of working-age adults were on sick leave 2 weeks after TIA, and one in ten remained on benefit after one year. Individuals with TIA also tend to have more days on sick leave the year before TIA compared to the general population.

Viktorisson et al. 2026.

PLoS One, vol. 21, no. 9.

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Keywords: Sick leave; transient ischemic attack; Sweden.

Evidence Level: 4B

Link: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0359635

Working Hours

Night work and cancer risk: Results from the ELSA-Brasil worker cohort

Objective: To estimate the association between exposure to night work and the incidence of breast, prostate, and colorectal cancer among participants in the Estudo Longitudinal de Saúde do Adulto (ELSA-Brasil - Longitudinal Study of Adult Health). **Methods**: ELSA-Brasil is a multicenter cohort study conducted in the Northeast, South, and Southeast regions of Brazil. A total of 14,787 participants were included at baseline (2008-2010) and followed through 2023, with a mean follow-up duration of 13 years (SD = 2.22). Exposure to night work was defined based on self-reported occupational history, considering cumulative duration. Incidence cases of cancer were identified during follow-up. Associations were estimated using Cox regression models, adjusted for sociodemographic, behavioral, and occupational variables. **Results**: Exposure to night work for more than ten years was associated with an increased risk of prostate cancer (HR = 1.38; 95% CI 1.09-1.75) and colorectal cancer (HR = 1.35; 95% CI 1.09-1.68), compared with exposure to day work. No association was observed between breast cancer and night work (HR = 0.89; 95% CI 0.65-1.22). **Conclusion**: The results suggest that prolonged exposure to night work may increase the risk of cancer, particularly prostate and colorectal cancer. This is the first study from the ELSA-Brasil cohort to analyze cancer incidence, expanding knowledge on work-related cancer and reinforcing the carcinogenic potential of night work, with implications for occupational health surveillance and cancer prevention policies in public health.

Bernardino et al. 2026.

Revista de Saúde Pública, vol. 60.

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Keywords: Night work; cancer risk; Brazil; exposure.

Evidence Level: 4B

Link: https://www.scielo.br/j/rsp/a/jzfVwyXj3hpCVFpJ56qyrXn/?lang=en

Do people get used to working long hours?

Overemployment - working more hours than desired - affects nearly one-third of European workers, yet its consequences remain understudied. Using data from the German Socio-Economic Panel (SOEP, 1984-2019, N = 43,570) and individual fixed-effects models with leads and lags, we examine whether overemployment is associated with a deterioration in wellbeing and health, and whether potential adverse impacts persist as long as the overemployment state continues or whether people get used to working long hours. We find that overemployment is associated with a substantial decline in mental health, with impacts that intensify rather than attenuate overtime. Specifically, the SF-12 mental health summary scale declines by 0.44 points in the first year of overemployment, deepening to between 0.80 and 1.13 points (8-11% of a standard deviation) thereafter. We obtain similar results for work, leisure time, health, and overall life satisfaction. Meanwhile, the association between overemployment and physical health is smaller and less consistent. Our findings suggest that overemployment may lead to an increased risk of persistent symptoms of poor mental health and low wellbeing, with implications for working time regulations and workplace wellbeing and health policies.

Krekel et al. 2026.

Social Science and Medicine, vol. 404.

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Keywords: Health; hedonic adaptation; overemployment; wellbeing; working-hours mismatch.

Evidence Level: 4B

Link: https://www.sciencedirect.com/science/article/pii/S0277953626005587?via%3Dihub

Wellness Programs

Barriers and facilitators of implementing workplace interventions supporting young workers' safety, work environment and health: A scoping review of qualitative and mixed-method studies

Purpose: Young workers face higher risks of workplace accidents, mental health issues, and physical strain. This scoping review aims to identify and summarize available research literature on barriers and facilitators to implementing workplace interventions to support young workers' safety, work environment and health. **Methods**: We conducted a comprehensive search in bibliographic databases including PubMed, Web of Science and PsycINFO for articles published from 2007-2022. The PICO strategy guided the assessment of relevant studies and the bibliographical search for qualitative and mixed-method studies on interventions where (1) participants were young workers (mean age 15-29 years), (2) interventions were initiated and/or carried out at the workplace, and (3) barriers or facilitators to the implementation of interventions to support young workers' safety, work environment and health were described. We employed an iterative process to identify general thematic categories in the data. **Results**: In total, 11 relevant studies were identified. Seven primary themes related to facilitators and barriers emerged from our analysis. Facilitators: fit the organizational context, organizational support, balance between efforts and gains, employee motivation, and employee involvement; Barriers: high workload and time pressure, shift work and irregular working hours. **Conclusion**: There is a lack of intervention studies on young workers focusing on factors for implementation. The studies we find, reveal several factors to be aware of when designing and implementing interventions to support young workers' safety, work environment and health. The results emphasize a need for studies evaluating factors of importance for the successful implementation of workplace-based interventions among young workers.

Sundstrup et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 3.

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Keywords: Accidents; adolescent; implementation; injuries; intervention; work environment; workers; young adult.

Evidence Level: 1A

Link: https://link.springer.com/article/10.1007/s10926-025-10313-3

Workplace-based integrative care for firefighters: Real-world evidence from a visiting healthcare program

Introduction: Firefighters, as essential workers, face substantial barriers to healthcare access due to shift work, unpredictable schedules, and physically demanding duties. Workplace-based healthcare delivery models have emerged as a potential strategy to address these access gaps, yet real-world evidence remains limited. **Methods**: This study evaluated a workplace-based visiting healthcare program implemented at fire stations in Seoul, Korea, between September 2023 and February 2024. A retrospective chart review assessed changes in pain intensity among firefighters receiving integrative care, including acupuncture and Chuna manual therapy, while a cross-sectional survey examined user satisfaction, perceived need, and acceptability of the program. **Results**: Forty firefighters were included in the clinical evaluation, showing significant reductions in pain intensity (Numeric Pain Rating Scale, median [IQR]: 4.0 [4.0-6.0] to 2.0 [1.0-2.0]; Wilcoxon signed-rank test, $p < 0.001$), with 97.5% achieving the minimal clinically important difference. The intervention was well-tolerated, with only minor and transient adverse events reported. Survey responses from 133 participants indicated high satisfaction (median 4 out of 5 for all items) and strong willingness to recommend the service (88.0%). Most respondents recognized the need for such services (92.0%) and supported their integration into institutional healthcare systems (84.0%). **Conclusion**: Workplace-based integrative care may represent a feasible and acceptable model to improve healthcare access among shift-based essential workers. These findings provide real-world evidence supporting workplace-based healthcare delivery models for shift-based essential workers.

Youn et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Essential workers; healthcare access; integrative care; musculoskeletal pain; program evaluation; workplace health.
Evidence Level: 4B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1880013/full

A smartphone-based ecological momentary intervention for workplace mental health: Randomized controlled trial

Background: Work-related stress has been widely associated with an increased risk of various mental disorders and poor mental well-being. The fast-growing mobile health services industry has provided new opportunities for workplace mental health. **Objective**: This randomized controlled trial examined the effectiveness of Neurum (Neurum Limited), a smartphone-based intervention tool featuring ecological momentary assessments and interventions that aims to reduce workplace stress in real-time and real-world settings. **Methods**: A total of 201 working adults were recruited for a 4-week smartphone-based intervention that incorporated cognitive behavioral therapy, mindfulness exercises, and self-regulation exercises delivered on Neurum. A simple randomization procedure was used. Participants in the intervention group were encouraged to log mood journals, complete mental health exercises, and provide user feedback whenever applicable. The key outcome was measured by the Depression, Anxiety, and Stress Scale-21 items (DASS-21; Cronbach α=0.87). **Results**: The intervention group consisted of 102 participants, while the control group consisted of 99 participants. More participants dropped out from the intervention group (n=21) than from the control group (n=2; χ21=18.259; P<.001). The final sample consisted of 178 participants (male: 85/178, 47.8%; female: 93/178, 52.2%; mean age of 34.65, SD 7.67 y). Analyses revealed that after the 4-week intervention, the DASS-21 scores decreased in the intervention group (mean difference [MD]post-pre intervention=-14.518) but increased in the control group (MDpost-pre intervention=3.319; F1,176=59.358, P<.001; η2=0.252). This effect was largely led by stress reduction (F1,176=64.679, P<.001; for the intervention group, MDpost-pre intervention=-6.692, while for the control group, MDpost-pre intervention=2.000). On average, participants completed 6.27 (SD 9.4) exercises and provided 9.74 (SD 18.2) mood journal logs, with a daily engagement of 4.95 (SD 6.89) minutes. However, the associations between the changes in DASS-21 scores and the numbers of exercises or mood journal logs did not reach statistical significance. **Conclusions**: This study primarily established the effectiveness of Neurum in alleviating depression, anxiety, and stress symptoms in noninstitutionalized working adults, with a satisfactory user retention rate. Despite potential health-related culture differences, Neurum contributed to evidence-based digital health in nonclinical settings for timely needs and general accessibility as an alternative to traditional, face-to-face, and high-cost mental health services. Future directions involving a personalized approach in online mental health services were discussed.
Li et al. 2026.
JMIR Mhealth Uhealth, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: EMA; EMI; digital intervention; ecological momentary assessment; ecological momentary intervention; mHealth; mobile health; online intervention; workplace stress.
Evidence Level: 4B
Link: https://mhealth.jmir.org/2026/1/e72435

Organisational Issues

Factors contributing to the effective operation of occupational health and safety committees: A scoping review and conceptual framework

Introduction: Scholarly evidence suggests that the effectiveness of Occupational Health and Safety Committees (OHSCs) may rely on various factors. However, it remains unclear which specific factors influence OHSC functionality and how they may be interconnected. This scoping review aimed to identify, map, and analyze empirical studies from four major bibliographic databases (Scopus, EBSCOhost, PubMed, and Web of Science) to explore which factors, attributes, or characteristics contribute to the effective operation of OHSCs. **Method**: Nine studies from 2014 to 2024 were identified across seven different industries, with the healthcare sector being the most represented. The findings revealed 63 factors

grouped into eight themes: OHSC composition, OHSC governance, OHSC resources, OHSC roles and responsibilities, OHSC external communication, OHSC influence, OHSC members' attitudes, management, and workers' support for OHSC. The discussion of these themes in relation to other literature led to the development of a preliminary conceptual framework for the effective operation of OHSCs, illustrating the interconnectedness and interdependence of the themes and their associated factors. **Conclusions and practical applications**: This framework, along with the identified factors, can play a vital role in guiding improvements in industry practices and standards. It can also inform future research by contextualizing its themes and factors within local parameters, such as organizational complexity, cultural elements, resources available, and legislative expectations.
Tawhidul Hasan et al. 2026.
Journal of Safety Research, vol. 98.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Occupational health and safety; occupational health and safety committee; safety committee; scoping review, conceptual framework.
Evidence Level: 1A
Link: https://www.sciencedirect.com/science/article/pii/S0022437526001209?via%3Dihub

Job Design

AI-enabled job demands and employee well-being: Emotional exhaustion and turnover across organizational contexts

As artificial intelligence (AI) becomes embedded in organizational work systems, employees' psychological responses increasingly shape how AI is experienced, enacted, and sustained in practice. This study examines how AI-enabled job demands influence employee well-being and turnover intention, and how these processes vary across organizational contexts (public and private sectors). Drawing on the Job Demands-Resources (JD-R) framework, we conceptualise AI job complexity and AI awareness as psychologically salient demands that condition employees' emotional and behavioral responses to AI integration. Drawing on time-lagged survey data collected from 456 employees using AI across public and private organizations, this study tests a health impairment process linking AI-enabled job demands to turnover intention via emotional exhaustion using PLS-SEM and multi-group analysis (MGA). The findings show that both AI job complexity and AI awareness increase emotional exhaustion, which in turn mediates their effects on turnover intention. AI awareness also directly predicts turnover intention, highlighting its role as a key psychological trigger of withdrawal under AI-driven work transformation. Sectoral comparisons further reveal that the emotional impact of AI awareness is significantly weaker in public organizations, while AI self-efficacy buffers the relationship between AI awareness and turnover intention only in the public sector. By foregrounding emotional exhaustion as a core psychological mechanism, this study advances understanding of how AI reshapes employee well-being, resistance, and retention. It contributes to interdisciplinary debates on human-AI interaction by demonstrating that AI's psychological consequences are contingent on organizational context and personal resources, offering actionable insights for designing human-centred, psychologically sustainable AI-enabled workplaces.
Pham et al. 2026.
Acta Psychologica, vol. 269.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Artificial intelligence (AI) job demands; emotional exhaustion; health impairment process; job Demands-Resources (JD-R) model; turnover intention.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0001691826012291?via%3Dihub

Work conditions leading to job retention among individuals with neurodevelopmental disorders

Many individuals with neurodevelopmental disorders encounter several difficulties in the modern workplace because of functional impairments like lack of communication skills or inattention caused by atypical brain developments. On the other hand, other individuals with these disorders lead a social life

without any significant problems in their workplace. This study suggests several conditions that might allow them to continue working in their current workspace while maintaining their social life. To confirm the effects of these conditions, we conducted an internet questionnaire survey among workers aged 16-65 years in Fukushima Prefecture. We asked the workers with neurodevelopmental disorders whether they wanted to continue working in their current workspace (yes/no). Those who had answered "yes" were asked to rate each of the following conditions as the reason for their answer: satisfaction with the work conditions (sufficient vacation or working hours), safety in working environment, company welfare policies, good workplace atmosphere, sufficient salary, well-equipped welfare facilities, and training or counsel system enough to satisfy. We also asked whether they were regular employees (yes/no). For each condition, we used a logistic regression model to calculate the multivariable-adjusted odds ratios to assess their willingness to continue working and feelings of anxiety about job retention at their current workplace. Those who had rated their reasons as "applicable" for keeping their jobs were regular employees who tended to have not experienced anxiety about retaining such jobs. Therefore, these conditions might help retain the employment of individuals with neurodevelopmental disorders.
Yoshida et al. 2026.
The Tohoku Journal of Experimental Medicine, vol. 269, no. 4.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Job satisfaction; neurodevelopmental disorders; occupational stress; work-life balance; working conditions.
Evidence Level: 4B
Link: https://www.jstage.jst.go.jp/article/tjem/269/4/269_2025.J127/_article

Shift Work

Cardiovascular risk factors in 101 night-shift and day workers in industry: A cross-sectional study

Objective: This cross-sectional study assesses cardiovascular disease (CVD) risk factors in industrial rotating nightshift and day workers. **Methods**: We examined 27-day workers, 40 night-shift workers with high night load, and 34 night-shift workers with low night loads. We assessed sleep, blood pressure, pulse wave velocity, carotid intima-media thickness, maximal oxygen uptake ( ), glycosylated hemoglobin, lipids, focusing on inflammatory markers, and adipokines. **Results**: High-load night-shift workers had higher inflammation and lower adiponectin level compared with other shift workers and day workers. Night shifts of 8 and 12 hours shortened sleep. The number of night shifts was positively associated with inflammatory markers and negatively associated with adiponectin. **Conclusions**: Night-shift work is associated with CVD risk factors. Shift schedules with fewer night shifts and longer recovery periods could mitigate it.
Skogstad et al. 2026.
Journal of Occupation and Environmental Medicine, vol. 68, no. 9.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Adipokines; cardiovascular disease; night-shift work; occupational cardiology; occupational health; systemic inflammation.
Evidence Level: 4B
Link: https://www.ovid.com/jnls/joem/fulltext/10.1097/jom.0000000000003703~cardiovascular-risk-factors-in-101-night-shift-and-day

Mitochondrial dysfunction unravels the potential molecular link between night shift work-related circadian disruption and elevated blood pressure in human and mouse models

This study demonstrates that circadian rhythm disruption induced by night-shift work is associated with elevated blood pressure in both murine models and human subjects. By integrating rodent and human epidemiological data, we identify mitochondrial dysfunction as the principal mechanistic contributor to this relationship. In mice, data were obtained at 4 and 10 weeks, with sampling performed at both ZT0 and ZT12. Simulated night shift work elevates blood pressure, induces circadian gene dysregulation (e.g., PER1, BMAL1), and precipitates mitochondrial dysfunction and oxidative stress. These findings are corroborated

in human night shift workers, where exposure duration is quantitatively associated with increased systolic and diastolic blood pressure and concomitant dysregulation of circadian and mitochondrial markers. Furthermore, the expression levels of these markers correlate with both night shift work exposure and blood pressure. Collectively, the results establish mitochondrial dysfunction as a critical pathway linking circadian disruption to an elevated blood-pressure phenotype, offering new insights into the cardiovascular consequences of shift work.

Jiang et al. 2026.

Advanced Science, vol. 13, no. 52.

User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*

Keywords: Blood pressure elevation; circadian rhythm; mitochondrial dysfunction; night shift work.

Evidence Level: 4B

Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC13336779/

Association of shift work and shift patterns with thyroid function: A NHANES-based cross-sectional study

This cross-sectional study examined the association between shift work and thyroid function using data from the National Health and Nutrition Examination Survey 2007 to 2010. Weighted univariate and multivariate regression models were applied, with additional subgroup and interaction analyses performed. A total of 3578 participants were included (mean age 41.17 ± 13.31 years). After adjusting for potential confounders, shift workers exhibited significantly higher levels of thyroid-stimulating hormone (TSH) (β = 0.30; 95% CI: 0.14-0.45), thyroglobulin antibody (TgAb) (β = 11.62; 95% CI: 3.49-19.74), and thyroid peroxidase antibody (TPOAb) (β = 8.74; 95% CI: 1.07-16.40), alongside an increased prevalence of autoimmune thyroiditis (AIT) (OR = 1.69; 95% CI: 1.26-2.26) compared with day workers (all P < .05). Analyses stratified by shift type revealed that regular evening shifts were most strongly associated with elevated TSH (β = 0.58), subclinical hypothyroidism (SCH) (OR = 2.63), and AIT (OR = 2.29). Additionally, rotating shifts were specifically linked to higher TgAb levels and AIT risk. These findings indicate that shift work, particularly evening and rotating shift patterns, is associated with adverse thyroid-related outcomes.

Li et al. 2026.

Medicine, vol. 105, no. 36.

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Keywords: NHANES; autoimmune thyroiditis; cross-sectional study; shift work; subclinical hypothyroidism; thyroid function.

Evidence Level: 4B

Link: https://www.ovid.com/jnls/md-journal/fulltext/10.1097/md.0000000000050583~association-of-shift-work-and-shift-patterns-with-thyroid

Management and Leadership

When support for safety misses the mark: The positivity-dampening effect of upper management support following workplace injuries

Introduction: Workplace injuries harm not only physical functioning but also employees' psychological connection to work, elevating distress and undermining the emotional energy needed for reintegration. This study examines how formal organizational safety support shapes psychological recovery following injury. **Method**: Drawing on job demands-resources, social impact, and support typology perspectives, we tested whether perceived safety support from upper management, supervisors, and coworkers moderates the relationship between injury exposure and negative (psychological distress) and positive job-related affective well-being. **Results**: Across two samples of UK railway maintenance workers (N1 = 264; N2 = 117), support from supervisors and coworkers did not moderate these relationships. In contrast, when injuries were more frequent, higher perceived support from upper management was associated with lower positive affect. This positivity-dampening effect suggests that top-down safety support, when perceived as symbolic or detached from enacted practices, may fail to restore or even erode the motivational energy required for psychological recovery. **Conclusions and practical applications:** The findings highlight the importance of

distinguishing between distress reduction and affect restoration, as well as attending to the credibility and proximity of support sources in post-injury recovery.
Dawson et al. 2026.
Journal of Safety Research, vol. 98.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Job demands-resources model; psychological distress; safety support; social impact theory; workplace injuries.
Evidence Level: 4B
Link: https://www.sciencedirect.com/science/article/pii/S0022437526000939?via%3Dihub

Work Ability

Work ability and work participation statuses of the working-age population in Finland: A register-based clustering study

Purpose: Work ability is a complex concept without a single golden standard measure. This study explores the possibility to use register data to form distinct work ability clusters and examine the levels of work participation between these clusters, while considering the co-occurrence of factors contributing to work ability within the population. **Methods**: We used register data from a 90% sample of the Finnish working-age population in 2021 (ages 20-64, n = 2 920 099) to operationalize work ability based on literature. Employing K-Prototypes clustering, we identified distinct clusters of work ability. In this cross-sectional study, we then examined work participation by assessing the number of months spent in employment, unemployment, and receiving disability benefits within each cluster. **Results**: The analysis resulted in 11 distinct clusters. The clusters differed from each other in age, sex, educational attainment, occupation, household size and family type, and health. The average number of months spent in different work participation statuses in 2021 varied across these clusters with employment ranging from 7.3 to 11.6 months, unemployment from 0.3 to 2 months, and disability benefits from 0.2 to 2 months per year. **Conclusions**: Operationalization of the multifaceted concept of work ability using register data resulted in the identification of different clusters within the Finnish working-age population. Differences in various work ability-related variables highlight the complexity of work ability. Notably, the variation in work participation statuses among these clusters underscores the nuanced ways in which these factors interact to influence employment, unemployment, and reliance on disability benefits.
Siltala et al. 2026.
Journal of Occupational Rehabilitation, vol. 36, no. 3.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Cluster analysis; employment; unemployment; work ability; work disability.
Evidence Level: 4B
Link: https://link.springer.com/article/10.1007/s10926-025-10303-5

Exploring work stressors and resources and their perceived effects on symptoms and work ability in employees with multiple sclerosis: A qualitative study

Background: Adverse working conditions can lead to reduced working hours, career changes, or early exit from the workforce among employees with multiple sclerosis. The aim of the present study was to explore work-related stressors and resources, as well as their effects on symptoms and work ability, as perceived by employees with multiple sclerosis in Germany. **Methods**: Semi-structured interviews were conducted via video conference and telephone. The interviews were recorded, transcribed, and analyzed using MAXQDA and qualitative content analysis according to Kuckartz. **Results**: Of the 26 participants (73.1% women, mean age 38.4 years, SD = 10.2), 73.1% worked full-time and 26.9% part-time (> 19 h) across various sectors, including, e.g., public services, healthcare, IT, trade and industry, and crafts. Stressors and resources were categorized into three groups: (1) work-related factors (work contents and demands, work organization, and workplace conditions), (2) social factors (relationship with supervisors and colleagues), and (3) person-related factors (self-expectations, attitudes towards work and handling of the disease). Reported work stressors contributed to symptoms, such as fatigue, sensory disturbances, and cognitive and visual impairments, which impacted work ability. Reported work resources enhanced cognition and fine motor

skills, distracted participants from focusing on their disease, and fostered motivation and energy to carry out their profession. **Conclusions**: The results provide insights into which factors are essential for improving well-being and work ability in employees with multiple sclerosis. Based on these findings, workplace interventions and adaptations can be considered to enable employees with multiple sclerosis to remain in the workforce for a longer time.
Bau et al. 2026.
BMC Neurology, vol. 26, no. 1.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Health resources; Multiple sclerosis; occupational stress; qualitative research; symptoms; work ability; working conditions.
Evidence Level: 5B
Link: https://link.springer.com/article/10.1186/s12883-026-05417-z

Adapting to the Future of Work

Aging Workforce

Occupational mortality in older workers: A forensic autopsy-based evaluation

The aging of the global workforce has led to an increasing number of individuals remaining occupationally active at older ages. However, forensic autopsy-based data on workplace deaths in this population remain limited. This study aimed to evaluate the causes and manners of workplace-related deaths among individuals aged 65 years and older based on forensic autopsy findings. This retrospective study included individuals aged ≥65 years who died at the workplace and underwent forensic autopsy between 2020 and 2024. Demographic characteristics, manner and cause of death, comorbidities, autopsy findings, and toxicological results were analyzed. A total of 126 cases were evaluated. Natural deaths accounted for 67.5% (n = 85) of cases and were primarily attributed to cardiovascular diseases, most commonly ischemic heart disease and severe coronary atherosclerosis (60.3%, n = 76). Non-natural deaths comprised 32.5% (n = 41) and included both accidental and suicidal deaths. Accidental deaths were most frequently associated with blunt force trauma (19.8%, n = 25), while suicidal deaths were mainly related to hanging (4.8%, n = 6) and drug intoxication (4.0%, n = 5). Toxicological analyses were negative in the majority of cases (91.3%, n = 115), and no substances were identified as contributory to death. Workplace-related deaths among older workers reflect a combination of natural disease processes and external causes. Forensic autopsy provides essential information for accurate determination of cause and manner of death and for distinguishing accidental occupational fatalities from intentional self-harm.
Oruç et al. 2026.
Journal of Forensic Sciences, vol. 71, no. 5.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Cardiovascular pathology; forensic autopsy; occupational health and safety; occupational mortality; older workforce.
Evidence Level: 4B
Link: https://onlinelibrary.wiley.com/doi/10.1111/1556-4029.70360

Work frequency and subsequent health and well-being among older adults in Japan: An outcome-wide study

Background: Working in later life has been linked to health and well-being, yet how work frequency relates to these outcomes remains uncertain. We examined associations between work frequency and subsequent multiple domains of health and well-being among older adults. **Methods**: We used two datasets from the Japan Gerontological Evaluation Study (JAGES). Dataset 1 used three-wave panel data (2016, 2019, 2022; n = 41,758) for 42 self-reported outcomes. Dataset 2 linked 2016-2019 panel data to municipal long-term care insurance records through 2022 (n = 56,153), capturing mortality, dementia, and functional disability; together, analyses covered 46 indicators. Work frequency was categorized as not working, lower-frequency (1-3 times/month or several times/year), moderate-frequency (1-3 days/week), and higher-frequency (≥4 days/week) working. Models adjusted for 2016 covariates and prior outcome values. **Results**: Moderate-

frequency working showed favorable associations in 24 of 46 (52.2%) indicators. Higher-frequency working showed favorable associations in 25 of 46 (54.3%) indicators but was also associated with lower sports and hobby group participation and higher smoking and drinking prevalence (4 of 46, 8.7%). Both moderate- and higher-frequency working were associated with lower mortality (OR = 0.71 and 0.60; P for trend < 0.001). Analyses stratified by gender, age, education, and household income showed similar patterns, with limited effect modification. **Conclusions**: Older adults who worked showed lower mortality and more favorable values on many indicators than those who did not, and differences varied by frequency. Interpretation requires caution: health shapes who keeps working, and work quality was unmeasured; both warrant further study.

Takeuchi et al. 2026.

Archives of Gerontology and Geriatrics, vol. 151.

User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*

Keywords: Human flourishing; later-life working; outcome-wide study; super-aged society; well-being.

Evidence Level: 4B

Link: https://www.sciencedirect.com/science/article/pii/S0167494326002700?via%3Dihub

Associations between occupational trajectories at ages 35-55 and later-life cognition in older adults in Chile

Objectives: As global rates of Alzheimer's Disease and Related Dementias (AD/ADRD) increase, understanding the factors that contribute to cognitive aging is crucial. This study examined the association between occupational skill trajectories between ages 35 and 55 and cognitive function among older Chilean adults aged 60 and above. It explored how different patterns of occupational trajectories relate to cognitive performance. **Methods**: The analysis used data from the Chile-Cog study, which applied the Harmonized Cognitive Assessment Protocol (HCAP) to a nationally representative sample of Chilean adults in 2019. These cognitive assessments were linked to detailed occupational histories from the Chilean Social Protection Survey (SPS). Using Sequence Analysis, occupational trajectories between ages 35 and 55 were classified into nine groups for women and six groups for men. Cognitive function was measured using a composite cognitive score based on the HCAP items. Linear regression models estimated the associations between occupational trajectory groups and cognitive outcomes, separately for women (n = 1,009) and men (n = 769). **Results**: Individuals with longer participation in middle- and high-skill occupations showed better cognitive performance at older ages, whereas prolonged periods in low-skill jobs or not being employed were associated with lower scores. However, no strong evidence emerged on associations between specific trajectories of occupational mobility and cognitive outcomes. **Discussion**: The findings suggest that cumulative time in higher-skill occupations may be more important for cognitive aging than occupational mobility itself. This study contributes to understanding how occupational trajectories shape cognition in later life and offers insights for countries undergoing economic and demographic transitions.

Delaporte 2026.

The Journals of Gerontology: Series B, vol. 81, no. 10.

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Keywords: Global aging; life-course; occupation.

Evidence Level: 4B

Link: https://academic.oup.com/psychsocgerontology/article/81/10/gbag142/8736172?login=false

Fitness for work and the aging workforce: Medical assessment as a de facto mechanism of retirement in the United Kingdom after the abolition of the default retirement age

Background: Fitness for work is the judgement that a person is medically able to perform a role safely. This review considers the concept to have been shaped for a younger workforce expected to leave employment at a fixed retirement age. As populations have aged and mandatory retirement ages have been abolished, it is the instrument that remains available for questions it was not designed to answer. **Methods**: This review traces the origins of the concept and examines what fitness for work means when applied to an aging workforce and the risks of relying on it at scale. **Results**: Aging is gradual and individual and is poorly suited to a categorical fitness judgement applied to a gradual process. Universal screening of older workers is impractical, and using age itself as the trigger may amount to direct age discrimination, lawful only where

the employer can show that it is a proportionate means of achieving a legitimate aim. An unfit finding made without accommodation functions as an exit from work, and the limitation is not confined to older workers, since the duty to make reasonable adjustments attaches to disability alone. When the United Kingdom abolished its default retirement age in 2011, the law left capability, defined in statute by reference to health, as a route for ending an older worker's employment. Fitness-for-work assessment may therefore function as a de facto retirement mechanism, operating where mandatory retirement once did but without its transparency or legal constraints. Where a formal unfitness procedure exists, as in France, the sequence from assessment to exit is recorded and falls more heavily on workers over 50. The United Kingdom has no equivalent procedure and no equivalent data, so the risk is structural and unmeasured. **Conclusion**: Fitness for work could operate as a quiet successor to the mandatory retirement that was abolished as discriminatory, not through deliberate misuse but through the unguarded working of the mechanism. Abolishing mandatory retirement was the right course. What is missing is an obligation to find accommodation, modify work, or redeploy, attached to the assessment rather than to the person assessed.
Langlois 2026.
Frontiers in Public Health, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Age discrimination; aging workforce; fitness for duty; fitness for work; mandatory retirement; occupational medicine; workplace accommodation.
Evidence Level: 6B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1923423/full

Technology

When technology misaligns with work demands: A biomechanical and ergonomic field study of exoskeleton use in masonry

The use of exoskeletons in occupational settings has been proposed as a solution to reduce physical strain and improve ergonomics. This field study investigates the effect of a back-support exoskeleton on muscle activity, full-body kinematics and user acceptance among eighteen Danish masons during bricklaying. Eighteen participants completed a crossover study alternating between bricklaying with and without the exoskeleton. Using electromyography (EMG) and motion capture (Xsens), we assessed muscular activity and kinematics, while questionnaires evaluated acceptance and usability. Results showed negative effects on physical exposure, with increased muscular strain in the low back (5.2 %) during exoskeleton use. Although usability was rated positively, overall acceptance was low due to discomfort and workflow interference. Only 22% of participants expressed willingness to use the exoskeleton in the future. These findings highlight the challenges of implementing exoskeletons in dynamic and physically demanding trades such as masonry, where current designs may not suit multi-planar movements.
Brandt et al. 2026.
Applied Ergonomics, vol. 135.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Construction industry; musculoskeletal pain; workplace.
Evidence Level: 3B
Link: https://www.sciencedirect.com/science/article/pii/S0003687026000451?via%3Dihub

Between humans and machines: The impact of robot adoption on workers' health in China

Objective: To examine how robot adoption affects workers' health in China. **Methods**: Using China family panel studies data matched with regional robot penetration measures, we estimate health effects with regression models and explore heterogeneity and mechanisms. **Results**: Robot adoption significantly reduces perceived, diagnosed, and mental health issues among manufacturing workers. In contrast, effects in non-manufacturing sectors differ. Health impacts vary across worker groups, reflecting heterogeneous exposure and labor-market adjustment. **Conclusions**: Robot adoption may generate adverse health effects through labor displacement and reduced bargaining power. Strengthening social protection and skill training is essential to mitigate health risks associated with technological change.
Yuan 2026.

Journal of Occupational and Environmental Medicine, vol. 68, no. 9.
User License: *Creative Commons Attribution -NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0) (https://creativecommons.org/licenses/by-nc-nd/4.0/)*
Keywords: Heterogeneous health effects; labor-market adjustment; robot adoption; workers' health.
Evidence Level: 4B
Link: https://www.ovid.com/jnls/joem/fulltext/10.1097/jom.0000000000003754~between-humans-and-machines-the-impact-of-robot-adoption-on

Large language model exposure and precarious occupations: Unpacking relationships in the Canadian labor force

Objective: The adoption of digital technologies has historically impacted the most precarious occupations and contributed to widening labor market inequities. Large language models (LLM) may reshape this relationship. This study examines the association between occupational exposure to LLM and occupational precarity. **Methods**: Using Canada's Labour Force Survey, occupational exposure to LLM and four dimensions of precarity (contractual instability, earnings inadequacy, schedule unpredictability, working-time mismatch) were examined. A multidimensional index was developed to summarize an occupation's overall exposure to precarity. Four multivariate linear regression models with cluster-robust standard errors estimated the associations between LLM exposure and each dimension of precarity. A fifth multivariate model examined the relationship between LLM exposure and the multidimensional precarity index. Utilizing model coefficients, mean estimates of occupational LLM exposure were produced. **Results**: Using the multidimensional precarity index, our analysis showed that occupations characterized by low exposure to precarity had a significantly higher mean LLM exposure [mean 0.386, 95% confidence interval (CI) 0.356-0.417] compared to occupations with medium (mean 0.258, 95% CI 0.221-0.295), high (mean 0.260, 95% CI 0.194-0.328) or very high precarity (mean 0.205, 95% CI 0.136-0.275). Apart from earning adequacy, LLM exposure was also lower among occupations using each separate dimension of precarity. **Conclusion**: Occupations most likely to be exposed to LLM are those where precariousness is lowest. These occupations have previously been sheltered from technological change. There is a need of examine the impacts of LLM on workers in job where the technology is prominent.
Jetha et al. 2026.
Scandinavian Journal of Work, Environment and Health, vol. 52, no. 5.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: AI; AI exposure; Canada; Canadian labor force; LLM; artificial intelligence; job quality; labor market inequity; large language model; precarious job; precarious occupation; precarious work; precarity; workplace.
Evidence Level: 4B
Link: https://www.sjweh.fi/article/4312

The impact of perceived algorithmic management on employees' physical and mental health: a chain mediation analysis of frustrated work autonomy and workplace AI replacement anxiety

With the acceleration of digital transformation, perceived algorithmic management has gradually evolved into a widespread new type of occupational psychosocial hazard. From the perspective of occupational health, this study explores the negative association between perceived algorithmic management on employees' physical and mental health and systematically examines the chain mediating role of frustrated work autonomy and workplace AI replacement anxiety. Using a questionnaire survey method, this study collected data from 338 employees in multiple industries in China who were directly affected by perceived algorithmic management, SPSS 27.0 was used for preliminary statistical analyses (descriptive statistics, reliability testing, and correlation analysis), while AMOS 28.0 was used to construct and test the structural equation model (SEM) for confirmatory factor analysis and path estimation. Bootstrap resampling with 5,000 iterations was applied to assess indirect effects. The results show that perceived algorithmic management is significantly negatively associated with employees' physical and mental health; frustrated work autonomy and workplace AI replacement anxiety not only each play an independent mediating role in this relationship but also constitute a significant chain mediating pathway. This study suggests a potential mechanism through which perceived algorithmic management in the digital era may be associated with

occupational health risks, providing important empirical evidence for governments to formulate public health intervention policies, for enterprises to optimize management systems, and for the implementation of workplace mental health protection.
Ma et al. 2026.
Frontiers in Public Health, vol. 14.
User License*: Creative Commons Attribution (CC BY 4.0) (https://creativecommons.org/licenses/by/4.0/)*
Keywords: Algorithmic management; chain mediation analysis; employees' physical and mental health; frustrated work autonomy; perceived algorithmic management; workplace AI replacement anxiety.
Evidence Level: 4B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1877221/full

Human resource digital risk management and sustainable work-life balance in digital work environments: Examining the sequential roles of mindful technology use and techno-boundary crafting

Introduction: As economies modernize rapidly, digital transformation has changed the nature of work itself-often faster than employees can psychologically and socially adjust to it. This study looks at how Human Resource Digital Risk Management (HRDRM) supports Sustainable Work-Life Balance (SWLB) among Saudi knowledge workers, and specifically how this happens through a two-step behavioral process: first Mindful Technology Use (MTU), then Techno-Boundary Crafting (TBC). **Methods**: We surveyed 665 knowledge workers across three sectors in Saudi Arabia-IT and technology services, banking and financial services, and higher education-using a quantitative cross-sectional design. The measurement and structural models were tested using Covariance-based Structural Equation Modeling (CB-SEM) in IBM AMOS, and the sequential mediation pathway was examined through bias-corrected bootstrapping with 5,000 resamples. **Results**: HRDRM was a significant predictor of both MTU ($\beta = 0.382$, $p < 0.001$) and SWLB directly ($\beta = 0.338$, $p < 0.001$). MTU, in turn, strongly predicted TBC ($\beta = 0.547$, $p < 0.001$), and TBC itself was positively linked to SWLB ($\beta = 0.262$, $p < 0.001$). Interestingly, HRDRM did not predict TBC directly ($\beta = 0.036$, $p = 0.411$)-its influence only emerged once MTU was factored in. This sequential indirect pathway, from HRDRM through MTU and TBC to SWLB, was statistically significant ($\beta = 0.039$, 95% CI [0.020, 0.069]), confirming the sequential mediation model. **Discussion**: Taken together, these findings suggest that HRDRM shapes sustainable work-life balance through two distinct routes: a direct organizational effect, and an indirect one that works through employees' own self-regulatory behaviors. The fact that Mindful Technology Use appears to be a necessary first step before employees can effectively craft techno-boundaries adds a meaningful piece to digital HRM theory. Set against the backdrop of Saudi Arabia's Vision 2030 digital transformation agenda, this study offers organizations practical insight into how they can better support employee well-being as workplaces become increasingly digitally intensive.
Ali et al. 2026.
Frontiers in Public Health, vol. 14.
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Keywords: Saudi Arabia; digital work; human resource digital risk management; mindful technology use; sequential mediation; structural equation modeling; sustainable work–life balance; techno-boundary crafting.
Evidence Level: 4B
Link: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1889460/full

Technostress and exhaustion as threats to work engagement, examining the protective role of technology self-efficacy

Orientation: The digitization of the banking industry has intensified employees' exposure to technology related work demands, heightening the risk of technostress and exhaustion. The study investigates the relationship between technostress and exhaustion examining the moderating and mediating role of technology self-efficacy in sustaining work engagement within the banking industry. **Research purpose:** This study seeks to understand whether technology self-efficacy can be seen as a protective personal resource that may buffer the effects of technostress and exhaustion and sustain work engagement.

Motivation for the study: Integration of technology has increased employees' exposure to technostress and exhaustion, posing threats to work engagement. Therefore, the study examines the protective role of personal resources in mitigating the negative effects of technostress and exhaustion on work engagement to maintain productivity in digital environments. **Research approach/design and method:** Adopting a positivistic paradigm, this quantitative, cross-sectional research collected data from 202 banking employees via Qualtrics. Data were analyzed using the variance based Structural Equation Modeling (SEM) specifically SmartPLS. **Main findings:** The findings confirm that technostress simultaneously increases exhaustion and reduces work engagement indicating the dual role as both a strain inducing demand and a motivational inhibitor. Technology self-efficacy and exhaustion partially mediate the relationship between technostress and work engagement. Though technology self-efficacy supports work engagement, it does not prevent exhaustion, thus it cannot fully offset fatigue under high technology demands. **Practical/managerial implications and contribution/value-add:** Banks should prioritize digital skills development alongside workload and wellbeing interventions. Sustaining work engagement in modern environments requires a combined approach of reducing techno stressors, promoting employees' digital capabilities while strengthening employee recovery to prevent exhaustion and disengagement.
Dansa et al. 2026
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Keywords: Banking industry; exhaustion; technology self-efficacy; technology work demands; technostress; work engagement.
Evidence Level: 4B
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"It's not just a matter of getting technology into buses": An activity-centred approach to bus drivers' work sustainability in an age of automation

Background: In the context of current challenges facing public passenger transport, automation is presented as a leading solution for achieving more efficient, safer, and more sustainable mobility. This is reflected in the growing number of pilot projects and trials with automated buses across Europe. Yet, debates on automated public transport are often dominated by either technocentric perspectives or concerns about passenger acceptance. Objective This study adopts a perspective that has been insufficiently considered in research on automated public transport: the viewpoint of bus drivers. This neglect has meant that drivers' work experience and their knowledge of the issues affecting public transport remain residual. Methods A qualitative research design was employed, involving bus drivers from a public transport company in a metropolitan area of Portugal. Discussion sessions were organised as spaces for dialogue and reflection on work activity and its potential evolution with automation. **Results**: Four main themes emerged, illustrating the constraints that shape drivers' current work and how these have contributed to the deterioration of job quality. Building on this, the drivers projected their probable future work with automated buses, showing that this transition intersects with much more than technology alone. It requires attention to working conditions, occupational risks, bus scheduling, and even urban planning. **Conclusions**: As investment in automated public transport grows, promising to redefine drivers' work, our results help identify key organisational and policy factors that need to be addressed to promote sustainable work and secure a worker-led just transition to automation in public transport for bus drivers.
Silva et al. 2026.
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Keywords: Automated buses; automation; just transition; occupational health; public passenger transport; qualitative research; working conditions.
Evidence Level: 5B
Link: https://pubmed.ncbi.nlm.nih.gov/42117635/