



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 June 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

Employee-nature interactions: A scoping review on employees' green exercise behaviors

Background: Green exercise is emerging as a promising approach to improve employee well-being.

Objective: This scoping review aimed to map the existing literature on employees' green exercise behaviors. **Methods:** Following the methodological framework suggested by Arksey and O'Malley, relevant studies were identified in the Web of Science and Scopus databases on March 10, 2025. Various study types, including quantitative, qualitative, mixed-methods, and intervention studies published in peer-reviewed English journals, were screened. 13 studies were selected for detailed review, focusing on employed adults engaging in intentional physical activity within natural or semi-natural outdoor environments, such as parks and forests. Exclusions were applied to studies involving non-working populations, those that focused on non-exercise behaviors, as well as studies conducted in indoor or virtual environments. Editorials, opinion articles, theses/dissertations, conference papers, and non-English publications were also excluded. **Results:** Among the included studies, nature walking was the most prevalent form of green exercise. Psychological outcomes were the most frequently reported, while occupational outcomes were the least commonly addressed. The findings suggest that there is a growing body of research supporting the benefits of green exercise for employees. However, there remains a significant gap in understanding the facilitators and barriers that influence employees' participation in green exercise. **Conclusions:** Future research should examine underlying mediating and moderating mechanisms. Integrating theoretical frameworks from occupational health psychology and behavioral sciences will be essential to develop a more comprehensive understanding of how and why green exercise is adopted or avoided by employees.

Aydemir et al. 2026.

WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 84, no. 2.

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Keywords: Natural environments; outdoor recreation; physical activity; recovery from work; wellbeing at work; workplace health.

Evidence Level: 1A

Link: <http://pubmed.ncbi.nlm.nih.gov/41529077/>

Longitudinal employment patterns and parental health: A cross-country look

Study aims: Using a cross-country lens, we investigate the links between longitudinal work trajectories and health among parents with children under age 18. **Background:** Employment serves as a valuable resource, affording us a decent standard of living. The rising dominance of digital and technology, together with the service economy since the 1980s, has transformed the utility of employment from a resource to a vulnerability, subjecting more families to uncertain, unstable, and insecure work. Nonstandard work schedules or shiftwork, which often fall outside regular 9-to-5 daytime hours and can be unpredictable, carry potential health consequences. **Methods:** Using the longitudinal data from Australia (HILDA), Germany (SOEP), the UK (UKHLS), and the US (NLSY79), we used sequence analysis to first chart parental work schedule patterns between three stages of the life course, 25-34, 35-44, and 45-54, to show the changes and transitions in work patterns. We then conducted multivariate regression analysis to examine how variations in parental work patterns may shape individual health (i.e., physical and mental health) at ages 35/40, 45/50, and 55/60 while controlling for a rich set of sociodemographic characteristics. **Results:** Our sequence analyses uncovered roughly 4-6 work patterns during those three periods, revealing the heterogeneities of parental work trajectories that might correspond to childrearing demands and their sociodemographic backgrounds. We also found that mainly not-working pattern or volatile work arrangements (e.g., switching between daytime and non-daytime hours) were associated with significantly poorer physical and mental health; however, the persistence and magnitude of these associations varied by country. **Conclusions:** This study advances our understanding of the critical role of employment in our

health from a cross-country perspective and bears important implications for the intergenerational transmission of employment and health vulnerabilities.

Han et al. 2026.

PLoS One, vol. 21, no. 6.

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Keywords: Employment patterns; trajectories; parents; parental health.

Evidence Level: 4A

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0350945>

Individual differences in affect: Explaining work environment perceptions and later wellbeing

Individual differences in employees' affective dispositions influence how they perceive the work environment and report their well-being. A recurring challenge in this literature is that self-reported measures of working conditions and well-being cannot easily distinguish objective environmental features from the perceptual lens through which employees report them. Using a large, stratified sample of Danish employees (T1 N = 3970; T2 N = 2375) and the Danish Psychosocial Questionnaire, we quantified the extent to which positive and negative affect account for associations between work environment perceptions and employee well-being. Partial correlations, both cross-sectional and longitudinal over six months, showed that two brief affect measures accounted for an average of 73-75% of the observed associations. These findings suggest that a substantial portion of commonly reported work environment-well-being associations reflects stable individual differences in affective dispositions rather than objective environmental conditions, with direct implications for how self-report surveys are designed and interpreted in research and practice.

Craven et al. 2026.

Scientific Reports, vol. 16, no. 1.

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Keywords: Individual differences; negative affect; positive affect; well-being; work environment.

Evidence Level: 4B

Link: <https://www.nature.com/articles/s41598-026-55924-9>

Working conditions and state of health of employees working indoor and outdoor with varying levels of physical demand: Insights from the BIBB/BAuA employment survey 2024

Background: The effects of climate change are posing challenges for occupational health and safety, particularly among outdoor workers performing physically demanding tasks. Drawing on the Job Demands-Resources (JD-R) model, this study systematically examines job demands (physical, environmental, work intensity and working time location), job resources (autonomy and social support) and health outcomes (musculoskeletal and psychosomatic complaints) across four occupational groups: employees working mostly outdoor or indoor with either high or low physical demands. The analyses explore key differences between these groups and identify factors associated with health complaints within them. **Methods:** Data from the BIBB/BAuA Employment Survey 2024, a nationally representative dataset comprising approximately 20,000 employees from the German workforce, was analyzed using analyses of variance (ANOVA) and multiple regression models. **Results:** Consistent with the JD-R model, findings across all occupational groups highlight the direct associations of working conditions with employee health. Employees in indoor, high-demand roles reported the highest levels of musculoskeletal and psychosomatic complaints, primarily associated with higher work intensity and lower autonomy. Although outdoor, high-demand employees faced stronger environmental and physical demands, they reported fewer health complaints than the indoor, high-demand group. **Conclusion:** This absence of a direct association between the environmental demands and health complaints suggests the influence of unmeasured protective factors, such as personal resources. While work-related demands are consistently linked to increased health complaints, job resources, such as autonomy and social support, play a beneficial role in promoting overall well-being. The results highlight the importance of strengthening job resources to safeguard employee health. Enhancing autonomy, social support and personal resources may have beneficial effects that counterbalance work-related demands.

Riedel et al. 2026.

BMC Public Health, vol. 26, no. 1.

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Keywords: Employment survey; Job Demands-Resource Model; musculoskeletal and psychosomatic complaints; occupational groups; outdoor worker.

Evidence Level: 4B

Link: <https://link.springer.com/article/10.1186/s12889-026-28055-z>

Positive health behaviors and their relationships with well-being and work ability of Polish women: Research results

Introduction: Lifestyle is considered one of the most important determinants of health, which most of us have an influence on and can modify. However, it is necessary to raise health awareness among people so that they know how to do it effectively. **Objective:** This study examines the relationships between health behaviors, well-being, and work ability among Polish female employees. **Material and methods:** Anonymous questionnaire surveys conducted among 927 women aged 18-65, using the CAWI method, using a survey developed for the project containing selected standard tools (Work Ability Index, WHO-5 Well-being Index) and a personal survey including personal data and questions regarding, among others: self-assessment of health status and care for it, and well-being. **Results:** Women obtained an average result in the Positive Health Behavior Scale; they received an average of 60.3 points out of 102 possible to obtain. Women's care for their health increased with age; women performing mental work obtained better results than those who performed physical and mixed work. A statistically significant relationship between positive health behaviors and well-being and work ability was demonstrated. **Conclusions:** Due to the average care of women for their health, there is a need to constantly raise their health awareness, preferably through health education conducted at the workplace.

Hildt-Ciupińska et al. 2026.

PLoS One, vol. 21, no. 6.

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Keywords: Positive health; well-being; work ability; Polish.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0350232>

Work Health and Safety

Assessment of initial stay time and work-rest scheduling over consecutive moderate-intensity workdays in hot environments in young and older males and females

Introduction: Initial stay time (IST), the duration of continuous work before core temperature reaches 38.0°C, has been characterized in young and older adults but not across consecutive work periods or in conjunction with standard work-rest cycles. We examined sex- and age-specific ISTs during moderate-intensity work in very warm conditions and evaluated the effectiveness of prescribed work-rest cycles. **Methods:** Thirty young (18-30 years, n = 15 females) and thirty older (50-69 years, n = 15 females) habitually active, non-heat-acclimatized adults completed a 1.5-day simulated work protocol while wearing coveralls (~ 1-Clo). On Day 1, participants completed morning (AM1) and afternoon (PM1) work bouts separated by a 1 h lunch recovery in a cooled environment (22°C); on Day 2, a morning bout (AM2) was completed. Work consisted of treadmill walking at ~200 W·m⁻² in 26°C wet-bulb globe temperature until IST, followed by work-rest cycles starting with a 15-min rest and 45 min of work, for up to 240 min or volitional fatigue. **Results:** IST was shorter in PM1 than AM1 but did not differ between mornings. Females reached 38.0°C faster than males, with older females showing the shortest IST. Work-rest cycles maintained mean rectal temperature ≤38.3°C in >90% of bouts, with no sex- or age-related differences in cumulative time above 38.0°C. Cardiovascular strain was higher during PM1, while perceptual measures did not reliably track physiological strain. **Conclusion:** Continuous work to IST was reduced during afternoon work following morning work but was restored the next morning across sex and age groups. When applied after IST, prescribed work-rest cycles effectively maintained core temperature near safety limits. These findings highlight the need to consider work timing and worker characteristics when planning work in hot environments.

Kenny et al. 2026.

American Journal of Industrial Medicine, vol. 69, no. 6.

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Keywords: Age; heat loss; occupational heat stress; sex; thermoregulation; work exposure limits

Evidence Level: 3B

Link: <https://onlinelibrary.wiley.com/doi/10.1002/ajim.70076>

Objective assessment of visual workload in video display terminal workers using a non-invasive monitoring system

Background: The risk assessment for video display terminal (VDT) operators in occupational settings often relies on indirect estimates, such as self-reported screen time, which may not accurately reflect the true visual workload. The objective is to assess visual workload in VDT workers by measuring active screen fixation time with a non-invasive monitoring system and to explore its relationship with ocular surface alterations and fatigue-related indicators. **Methods:** An observational cross-sectional study was conducted on 38 administrative workers employed at a hospital booking center. Active VDT screen fixation, as well as shift duration and time spent in front of the VDT screen, were objectively measured using a patented video-based monitoring system. Ophthalmological evaluation included the Ocular Surface Disease Index (OSDI®), tear break-up time (BUT), and slit-lamp examination. Other investigated markers included blink rate, the Percentage of Eyelid Closure over the Pupil over Time (PERCLOS), and the Fatigue Assessment Scale (FAS). **Results:** Active screen fixation accounted for approximately 60% of the total recorded working time. Ophthalmological assessment identified alterations of the ocular surface in a substantial proportion of workers, with pathological BUT values observed in nearly half (47%) of the study population. No statistically significant associations were found between objectively measured fixation time and ocular or fatigue-related outcomes. PERCLOS and blink rate values remained within physiological ranges across the work shift. **Conclusions:** Objective measurement of screen fixation provides a more accurate characterization of visual workload among VDT workers than indirect exposure estimates and may support occupational health surveillance and risk assessment in VDT-exposed workers.

Marelli et al. 2026.

La Medicina del Lavoro, vol. 117, no. 3.

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Keywords: Visual workload; video display; terminal workers; non-invasive.

Evidence Level: 4B

Link: <https://mattioli1885journals.com/index.php/lamedicinadellavoro/article/view/18795>

The impact of job strain on occupational access to firearms and firearm-related suicide among US workers

Introduction: Firearm-related suicide rates are notably high among workers such as police officers and farmers. One risk factor is occupational access to firearms, but other occupational characteristics, such as job strain, are less understood. This study examined the impact of job strain on the association between occupational access to firearms and firearm-related suicide. **Methods:** This cross-sectional study used National Violent Death Reporting System data for 2013-2019 (n = 81,196). The outcome was firearm-related suicides, which were compared to suicides by other lethal means. The exposures included workers who used firearms as part of their job. Job strain was measured through the combination of job demand and job control measures. Job strain served as an effect modifier of the association between occupational access to firearms and firearm-related suicide. Adjusted odds ratios with 95% confidence intervals were estimated using multivariable logistic regression models, with stratified analyses for biological sex. **Results:** Working in a high-strain job (characterized by high job demands and low job control) significantly increased the odds of firearm-related suicide for both male (OR = 2.4, 95% CI: 1.9, 3.0) and female (OR = 4.0, 95% CI: 2.4, 6.5) decedents, compared to those with no occupational access to firearms and working in low-strain jobs (characterized by low job demands and high job control). **Discussion:** Reducing job strain in occupations with access to firearms may help decrease firearm-related suicides. Future research should

explore the role of social support and additional individual-level factors, including access to personal firearms and the temporality of psychosocial factors related to occupation.

Soupene et al. 2026.

American Journal of Industrial Medicine, vol. 69, no. 6.

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Keywords: Access to lethal means; firearms; occupation; stress; suicide.

Evidence Level: 4B

Link: <https://onlinelibrary.wiley.com/doi/10.1002/ajim.70078>

Towards integrated hazard assessment: Convergence of objective and subjective work environment assessments in manufacturing

Introduction: Ensuring a safe and healthy work environment remains a priority across industries, yet employees often perceive workplace hazards differently than standardized measurements suggest. This study investigates whether objective and subjective assessments of the work environment align, diverge, or complement each other in a practice setting. **Method:** Objective data was obtained from 472 safety protocols from high-risk settings in the manufacturing sector covering noise, thermal environment, lighting, and ergonomic factors, spanning 1,285 employees. Subjective perceptions were collected via surveys completed by 547 employees, capturing self-reported exposure and job satisfaction. Job satisfaction captures overall work evaluation, reflecting both objective and subjective workplace factors. Distance-based statistics, including canonical correlation analysis, multidimensional scaling, and multiple regression, were applied to compare the two assessment approaches and explore their association with job satisfaction. **Results:** Objective and subjective assessments showed a moderate overall correlation, yet the two approaches capture different facets of the work environment. Multidimensional scaling indicated that the hazards clustered largely by assessment approach or hazard type, suggesting each method illuminates distinct facets of the work environment. Moreover, incorporating both objective and subjective data explained more variance in job satisfaction than either approach alone, indicating complementarity in capturing employees' work experiences. **Conclusions:** Our findings indicate that relying solely on objective assessments may not capture the entire spectrum of environmental hazards. Subjective assessments offer a complementary perspective that standardized measurements miss. When combined, both approaches provide a more holistic view of hazard potential and its relationship to employee outcomes. These insights underscore the importance of embedding employee perceptions into risk assessment practices and work design strategies. **Practical applications:** Practitioners should consider supplementing objective measurements with employee self-reports to capture the multifaceted nature of hazards. This combined strategy can better pinpoint high-impact areas for intervention, thereby enhancing both risk mitigation and worker well-being.

Neuhaus et al. 2026.

Journal of Safety Research, vol. 97, no. 74-85.

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Keywords: Environmental hazards; objective assessment; occupational safety; risk assessment; subjective assessment; workplace.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0022437526000356?via%3Dihub>

Occupational burns among migrant workers in South Korea: A qualitative study of challenges and coping strategies

Objective: Burns are a global public health concern, and migrant workers face a disproportionately high risk for occupational burns. We traced their trajectory from injury occurrence through treatment to return to work, to identify key public health issues along this pathway. **Design, setting and participants:** This qualitative study involved repeated semi-structured interviews with seven migrant workers in South Korea who had experienced occupational burns. Participants had diverse nationalities, occupations and legal statuses. Interpreters were employed when needed. Thematic analysis was used to analyse the data, guided by a general inductive approach to identify recurring patterns and issues systematically.

Results: Six themes were identified and organised into three phases: pre-burns, burns-phase and post-burns challenges. Pre-burns challenges included (1) insufficient safety management and the difficulty of asserting occupational safety. Burns-phase challenges encompassed (2) worsened burn severity associated with inadequate first aid and treatment delays. Post-burns challenges involved (3) psychological trauma compounded by systemic gaps in mental health care, (4) premature return to work due to insufficient compensation, (5) inability to return to pre-injury work and limited reemployment due to lasting impairments and a passive job-seeking process, and (6) concerns about legal status.

Conclusions: The interviewed migrant workers with occupational burns face interconnected challenges rooted in systemic failures. This study highlights the need for improved workplace safety, timely medical treatment, mental health support, and adequate compensation, as well as reforms of visa renewal regulations and employer-dependent employment systems. Above all, occupational and public health policies must explicitly recognise and address the distinct vulnerabilities of migrant workers in order to protect this population and promote health equity.

Lee et al. 2026.

BMJ Open, vol. 16, no. 5.

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Keywords: Burn injuries; health equity; qualitative research; structural barriers; workplace safety.

Evidence Level: 5B

Link: <https://bmjopen.bmj.com/content/16/6/e116631.long>

Multiple configurational effects and analyses on construction workers' unsafe behaviors: A qualitative approach of fuzzy-set qualitative comparative analysis

Objectives: Unsafe behaviors among construction workers are a leading cause of site accidents and injuries. While previous research has examined these behaviors in isolation, the complex causal mechanisms underlying their occurrence remain insufficiently explored. This study introduces a conceptual model that captures the multiple configurational impacts of individual, organizational and environmental factors contributing to unsafe behaviors. **Methods:** Drawing on empirical data from 40 construction accident case studies, the research employs fuzzy-set qualitative comparative analysis (fsQCA) to examine the impact of different combinations of factors on behavioral outcomes. **Results and conclusions:** The results reveal two key insights: no single factor is a necessary condition for unsafe behaviors - instead, six sub-conditions (e.g., physical condition, psychological condition, personal traits, organizational management, workplace design and physical environment) interact in various configurations to precipitate unsafe actions; and (b) unsafe behaviors emerge from the synergistic interplay of these factors, illustrating a 'multiple paths to the same outcome' pattern and demonstrating causal asymmetry. The identified causal pathways offer practical implications for improving construction safety management by enhancing understanding of the multi-dimensional drivers of unsafe behaviors.

Meng et al. 2026.

International Journal of Occupational Safety and Ergonomics, vol. 32, no. 2.

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

Keywords: Configurational effect; construction site accident; construction worker; fuzzy set qualitative comparative analysis; unsafe behaviors.

Evidence Level: 5B

Link: <https://pubmed.ncbi.nlm.nih.gov/41052753/>

Implementing a complex innovation into workplace operations: The case of work ability support for indoor environment-associated health complaints

Background: Multifactorial health complaints associated with indoor work environments can impact on employees' work ability and arouse controversies in the workplace. Traditionally, solutions have centered on building-related factors, however supporting work ability requires a multi-perspective approach.

Objective: This study explored relevant perspectives for implementing a multi-perspective work ability support model. This model represents a complex intervention within the intricate context of indoor

environment-related health complaints in the workplace. **Methods:** We used recordings and notes from the workshops of a project aiming to implement the work ability support model in three organizations and used reflexive thematic analysis. We developed overarching themes from the data, using the Consolidated Framework for Implementation Research (CFIR) as an interpretative lens to structure the findings into implementation perspectives. **Results:** We developed four overarching themes encompassing all CFIR domains and most constructs: (1) the acknowledgment and validation of employees' emotions and experiences as a solution, (2) reliable information and detailed facts as the key to managing work ability support, (3) existing tools as a means to normalization and collaboration, and (4) supervisors as central actors in a challenging task. **Conclusions:** Implementing a work ability support model regarding complex phenomena affecting work ability, such as indoor environment-related health complaints, requires identifying and addressing the potential tensions and controversies underlying the model and requires consideration of the context. Viewing communication as a process of developing shared understanding and co-constructing knowledge throughout the implementation process and all its dimensions can be beneficial for the implementation.

Keränen et al. 2026.

WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 84, no. 2.

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Keywords: Implementation science; indoor air pollution; occupational health; preventive health services; working conditions; workplace.

Evidence Level: 5B

Link: <https://pubmed.ncbi.nlm.nih.gov/41627135/>

Multiple fatal accidents at work in Italy: how they occur and causal factors for identifying specific prevention measures

Background: Workplace accidents represent a significant health problem for workers. In 2022, the EU recorded over 3,000 workplace deaths and nearly 3 million non-fatal accidents. The aim of this paper is to provide an in-depth analysis of multiple fatal accidents in Italy in recent years, analyzing their occurrence patterns and causal factors to increase useful information for risk management. **Methods:** The statistics come from the INAIL Database and the Infor.MO National Surveillance System, which collects detailed information on accident dynamics and uses a multifactorial model to analyze the causes of injuries. In this system, the in-depth analysis of multiple fatal accidents was conducted on a cluster of 181 events that occurred between 2008 and 2022. **Results:** Data sources show that road accidents are a significant cause of multiple injuries. Other recurring accidents include collapses, fires, explosions, and asphyxiation in confined spaces. The construction and manufacturing sectors are the most affected. The main causes, highlighted particularly in the Infor.MO system, include poor worker training, inadequate workplace organization, and a lack of safety devices. **Conclusions:** To reduce workplace accidents, especially those with dramatic consequences such as multiple accidents, the importance of a stronger organizational safety culture is reiterated, in which training enables workers to understand risk analysis and gain greater awareness of hazards.

Manni et al. 2026.

La Medicina del Lavoro, vol. 117, no. 3.

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Keywords: Fatal accidents; Italy; prevention measures.

Evidence Level: 5B

Link: <https://mattioli1885journals.com/index.php/lamedicinadelavoro/article/view/18027>

A new machine learning framework for occupational accidents forecasting with safety inspections integration

Introduction: Reducing the number of occupational accidents remains a major challenge for companies, as these events lead to significant human harm and financial losses. Although many organizations have implemented safety programs and made continuous efforts to improve their prevention strategies, these

measures often remain insufficient to proactively and dynamically anticipate risks. In particular, safety inspections are still largely underexploited, and their integration into continuously updated predictive models has received little attention. **Methods:** We propose a model-agnostic framework for short-term occupational accident forecasting that leverages safety inspections and models accident occurrences as binary time series. The approach generates daily predictions, which are then aggregated into weekly safety assessments for better decision-making. To ensure the reliability and operational applicability of the forecasts, we apply a sliding-window cross-validation procedure specifically designed for time series data, combined with an evaluation based on aggregated period-level metrics. Several machine learning algorithms, including logistic regression, tree-based models, and neural networks, are trained and systematically compared within this framework. **Results:** Across all tested algorithms, the proposed framework reliably identifies upcoming high-risk periods and delivers robust period-level performance, demonstrating that converting safety inspections into binary time series yields actionable, short-term risk signals. **Conclusions and practical applications:** The proposed methodology converts routine safety inspection data into clear weekly and daily risk scores, detecting the periods when accidents are most likely to occur. Decision-makers can integrate these scores into their planning tools to classify inspection priorities, schedule targeted interventions, and funnel resources to the sites or shifts classified as highest risk, stepping in before incidents occur and getting the greatest return on safety investments.

Yapi et al. 2026.

Journal of Safety Research, vol. 97, no. 244-260.

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Keywords: Binary time series; machine learning; occupational accident prevention; proactive safety management; safety inspections; sliding-window cross-validation.

Evidence Level: 6B

Link: <https://www.sciencedirect.com/science/article/pii/S0022437526000460?via%3Dihub>

Risk Assessment

Genders vs. dangers: Unpacking gendered disparities in hazard recognition, risk perception, and safety performance among construction workers

Introduction: Construction safety research has traditionally focused on individual, organizational, and environmental determinants of safety performance. However, little is known about how visual social cues, particularly gender, influence hazard recognition and safety risk perception during visual safety evaluations. This study examines whether gender functions as a perceptual bias in construction safety judgments using a reality-perception-expression framework. **Method:** Seventy construction workers evaluated static images of real construction scenarios in which the gender of the depicted worker was systematically varied. Participants identified hazards, rated perceived safety risk, and responded to attitude statements related to gender and safety. Hazard recognition performance and safety risk perception were analyzed using linear mixed-effects models to account for repeated measures, with complementary nonparametric tests used where distributional assumptions were violated. **Results:** Results showed that female participants demonstrated significantly higher hazard recognition performance than male participants (Mean = 35.80% vs. 28.45%; $p = 0.007$; Cohen's $d = 0.65$). The gender of the worker depicted in the image did not significantly affect hazard recognition, indicating no stimulus-based gender effect. For safety risk perception, mixed-effects analysis revealed no overall gender differences; however, follow-up non-parametric analyses showed that male participants perceived higher risk when evaluating images depicting female workers (Mean = 0.14 vs. - 0.17; $p = 0.015$; Cohen's $d = 0.60$), suggesting context-specific observer bias. Attitudinal results aligned with behavioral outcomes, with female participants more strongly rejecting male superiority in safety consciousness ($p = 0.031$) and endorsing women's hazard recognition capability ($p = 0.014$). **Conclusions:** These findings demonstrate that gender-related differences in construction safety judgments are primarily observer-driven rather than stimulus-driven. While the use of static images enhances experimental control, it limits ecological validity, highlighting the need for future research using dynamic and immersive environments. **Practical applications:** Overall, this study advances understanding of the cognitive and social dimensions of construction safety and underscores the importance of bias-aware and gender-inclusive safety training and assessment practices.

Namian et al. 2026.

Journal of Safety Research, vol. 97, no. 440-452.

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Keywords: Construction safety; gender bias; hazard recognition; safety risk perception; visual social cues.

Evidence Level: 5B

Link: [https://linkinghub.elsevier.com/retrieve/pii/S0022-4375\(26\)00061-7](https://linkinghub.elsevier.com/retrieve/pii/S0022-4375(26)00061-7)

Chronic Health Issues

Supporting individuals with chronic health conditions in the workplace: A scoping review

Purpose: Globally, individuals living with chronic health conditions are becoming more prevalent, with many continuing to be engaged in paid employment; however, there has been no collation of the types of workplace accommodations, modifications and supports available globally for working age individuals with any type of chronic health condition. **Methods and materials:** A scoping review was conducted of electronic databases utilising the JBI methodology for scoping reviews. The review aimed to determine the types of workplace accommodations, modifications and supports that were provided to individuals who were living with at least one chronic health conditions and aged 16-67. **Results:** Thirteen research articles were included in the scoping review with two overarching categories identified. The first category, the organisation's immediate responses to the current symptoms of the individual consisted of four main themes. The second category had five themes focused on the organisation's ongoing or longer-term responses to the chronic disease process. **Conclusion:** Workplace accommodations, modifications and supports provided to those living with chronic health conditions varied between countries and may depend upon award conditions and stipulations. Self-advocacy and employer understanding of the impacts of chronic health conditions played an important role in whether workplace accommodations, modifications and supports were offered.

Morgan et al. 2026.

Disability and Rehabilitation, vol. 48, no. 12.

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Keywords: Accommodation; chronic; disability; employment; modification; rehabilitation; workplace.

Evidence Level: 4B

Link: [https://www.sleephealthjournal.org/article/S2352-7218\(26\)00023-9/fulltext](https://www.sleephealthjournal.org/article/S2352-7218(26)00023-9/fulltext)

Occupational Exposure

Occupational exposure to hexavalent chromium: A systematic review of environmental monitoring methods and analytical advances

Background: Hexavalent chromium (Cr(VI)) is a well-established occupational carcinogen, widely utilized in industrial processes such as electroplating, surface treatment, and ferrochromium production. It is also generated as a by-product of welding activities. Accurate monitoring of occupational exposure to Cr(VI) is essential for protecting workers' health. This review aims to critically assess the main challenges associated with existing environmental monitoring techniques for Cr(VI) in welding operations and to propose practical strategies to address these limitations. **Methods:** A systematic literature review was conducted by consulting 3 scientific databases (Scopus, Web of Science, and PubMed). Studies assessing occupational exposure to Cr(VI) published since 2014, were included and analyzed in terms of methods, dosimetric parameters measures, and possible alternative approaches for Cr(VI) characterization. **Results:** The reviewed studies employed diverse environmental monitoring strategies for occupational Cr(VI) exposure assessment, with substantial heterogeneity in sampling conventions, analytical workflows, and speciation capability. Some studies additionally reported biological measurements and/or used exposure modeling as supportive approaches; however, these were not systematically reviewed as primary endpoints. Findings confirm that occupational exposure to Cr(VI) remains a concern in multiple industries, with exposure levels varying according to tasks, process characteristics, and preventive measures. However, major challenges persist. Key issues include the difficulty of distinguishing Cr species, the instability of Cr(VI) during sampling and analysis, and the scarcity of reliable speciation data. Furthermore, particle size distribution-especially the role of ultrafine particles-remains poorly characterized despite its toxicological importance. Innovative

tools, including advanced analytical methods and modeling approaches, show promise but require further validation. **Conclusions:** To fill research gaps and improve risk assessment, future studies should (i) accurately differentiate between chemical species of metals; (ii) adopt methods capable of measuring particle size distribution, with focus on ultrafine fractions; and (iii) systematically collect contextual data on Personal Protective Equipment use and work activities.

Spinazzè et al. 2026.

Annals of Work Exposures and Health, vol. 70, no. 5.

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Keywords: Cr(VI) speciation; ISO 16740; NIOSH 7600; alkaline extraction; biomonitoring; chromate; diphenylcarbazide; exposure assessment; inhalable fraction; risk assessment; ultrafine particles; welding fumes.

Evidence Level: 1A

Link: <https://academic.oup.com/annweh/article/70/5/wxag047/8713235?login=false>

Occupational and environmental risk factors for salivary gland cancer: A systematic literature review

Occupational and environmental risk factors for salivary gland cancer (SGC) are largely unrecognised. This systematic review is the first to characterise the relationship between employment in specific industries or occupations and risk of SGC, as well as exposure to key occupational and environmental hazards. Studies published up to September 2023 were collected from three electronic databases and systematically screened. The Health Assessment Workplace Collaborative programme was used to tag studies based on pre-established inclusion and exclusion criteria. Studies eligible for inclusion (n=24) underwent an in-depth review to extract key study characteristics and findings, including effect estimates and 95% CIs. Studies were evaluated for influence of key biases. To identify priority sectors and hazards for intervention, effect direction plots were created to analyse the number and quality of studies reporting elevated rates of SGC across industry, occupation and exposure groups. 24 articles were included for analysis. Exposure misclassification and confounding bias were a common concern across studies. Industry and occupation groups with the strongest relationship to SGC included cleaning services, material handling, food services, rubber/plastics production, engineering and construction/painting. Exposures with the strongest relationship to SGC included silica dust, cement dust, chlorinated solvents, formaldehyde and white spirits. Several occupational exposures were associated with an elevated risk of SGC, whereas environmental evidence was more limited. Additional research involving larger cohorts with quantitative exposure data is needed to further establish relationships between occupational and environmental exposures and often-overlooked rare cancers like SGC. PROSPERO registration number: CRD42023468037.

Choi et al. 2026.

Occupational and Environmental Medicine, vol. 83, no. 3.

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

Keywords: Dust; environmental exposure; nickel; occupational health; solvents.

Evidence Level: 1A

Link: <https://oem.bmj.com/content/83/3/170.long>

Perceptions of respirable crystalline silica exposure in the Australian tunnelling industry: A survey of stakeholders' attitudes to occupational health protections

Objectives: Tunnelling is essential for Australia's infrastructure, yet workers can face health risks from respirable crystalline silica exposure. This study explored perceptions of respirable crystalline silica exposure and types of silica-related disease. **Methods:** A cross-sectional online survey was conducted with 290 participants with at least six months' tunnelling experience, recruited through industry, union and legal and scientific networks, supplemented by targeted sector outreach. Closed responses were analysed descriptively, Likert scale data were compared across experience groups using analysis of variance and free-text answers were thematically coded. **Results:** Awareness of respirable crystalline silica risks was moderate to high yet confidence in dust control implementation was lower. Most participants (62.5%) indicated barriers that prevented good dust control practices. While exposure levels and use of respiratory

protective equipment reportedly improved over the past decade, concerns about ongoing exposure and disease risk remain. Perceptions differed notably among experience types. Chronic bronchitis, silicosis and rheumatoid arthritis were the most frequently self-reported diseases. **Conclusion and implications for public health:** Findings indicate that stakeholder concerns about respirable crystalline silica exposure and silica-related disease risk are significant within the tunnelling industry. Inconsistent dust control, superficial compliance and gaps between knowledge and practice point to systemic issues requiring leadership, accountability and proactive enforcement.

Cole et al. 2026.

Australian and New Zealand Journal of Public Health, vol. 50, no. 3.

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Keywords: Leadership; safety culture; silicosis; tunneling.

Evidence Level: 4A

Link: <https://www.sciencedirect.com/science/article/pii/S1326020026000129?via%3Dihub>

Occupation and serum concentrations of per- and polyfluoroalkyl substances: Data from the 2013 to 2014 National Health and Nutrition Examination Survey

Background: Occupational exposure to per- and polyfluoroalkyl substances (PFASs) is a growing concern, as workers may experience higher exposures compared to the general population. However, the contribution of occupational exposure to PFAS on overall body burden remains understudied. **Objective:** This study aims to identify occupational groups with high PFAS body burden based on the data from 2013 to 2014 National Health and Nutrition Examination Survey (NHANES) and assess potential health risks using the National Academy of Sciences, Engineering, and Medicine (NASEM) guidelines for clinicians. **Methods:** Serum concentration of 12 PFAS compounds among U.S. residents aged ≥ 16 yr was obtained from the 2013 to 2014 NHANES (N = 2099), which provides the most recent cycle with detailed information on current and longest jobs. Occupational history was obtained from 2010 U.S. Bureau of the Census Industrial & Occupational Classification coding system reported in the NHANES dataset. Occupations and industries associated with the highest PFAS body burden were determined and categorized into 3 risk groups per NASEM thresholds (<2 , 2 to 20, and >20 ng/mL) for the sum of 7 PFAS. Survey-weighted linear regressions were conducted to compare PFAS levels across 23 occupational/industry groups, stratified by gender and age. **Results:** Higher total PFAS concentrations (sum of all detectable PFAS) were observed for both current and longest jobs (GMs: 12.4 to 14.4 ng/mL) in construction/extraction, installation/maintenance/repair, and arts/design/entertainment/sports/media occupations. PFOA, PFOS, PFHxS, and PFNA accounted for $>70\%$ of total PFAS body burden. Over 20% of participants exceeded the NASEM high-risk threshold (≥ 20 ng/mL) in installation/maintenance/repair, construction, manufacturing, durable goods, and transportation/warehousing, with GMs ranging from 28.6 to 37.6 ng/mL. Elevated PFAS levels were observed in construction and installation/maintenance/repair groups in adjusted models, relative to their respective reference groups. Significantly elevated associations were most pronounced among adults aged 30 to 64 and among females in installation/maintenance/repair compared with sales. **Conclusions:** The observed differences in PFAS serum levels, including elevated body burdens among workers in construction/extraction, arts/design/entertainment/sports/media, and installation/maintenance/repair, underscore the need for targeted biomonitoring and exposure intervention among these occupational groups.

Ojo et al. 2026.

Annals of Work Exposures and Health, vol. 70, no. 5.

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Keywords: NASEM; NHANES; PFAS; occupational exposure; risk assessment; serum biomarkers.

Evidence Level: 4B

Link: <https://academic.oup.com/annweh/article/70/5/wxag052/8721469?login=false>

Occupational category, job type, and sarcoidosis: Findings from a French multicenter study

Objectives: Evidence supporting an occupational hypothesis for sarcoidosis remains limited. The hypothesis of the present study was that some occupational exposures might be more prevalent among sarcoidosis

patients than in the French population. **Methods:** A cross-sectional observational study design was used to collect occupational data from patients enrolled in the Epidemiology of Sarcoidosis (EpiSarc) cohort study with documented sarcoidosis. The data were initially classified according to the occupational classification of the French National Institute of Statistics and Economic Studies and then compared to employment data from the French population for the reference year 2016. **Results:** Among the 1,512 sarcoidosis patients included, occupational data were available for 1,177 patients (78%). Of these, 1,086 (92%) were employed at time of sarcoidosis diagnosis. Notably, manual workers were significantly overrepresented compared to the general French population (40% versus 20%, $p < 0.0001$). Among the 471 manual workers, the distribution of occupations was as follows: construction workers ($n = 165$, 35%), domestic helpers and cleaners ($n = 109$, 23%), transportation and handling workers ($n = 82$, 17.5%), manufacturing labourers and industrial operators ($n = 67$, 14%), textile industry workers ($n = 25$, 5.5%), and other occupations ($n = 23$, 5%). The frequency of patients with manual working occupations varied depending on the organ involvement, being the highest in patients with lung involvement. **Conclusion:** We found that manual workers occupations with exposure to various environmental hazards that may trigger inflammation promoting an abnormal granulomatous immune response, including dust, were associated with sarcoidosis. **Lhote et al. 2026.**

Pulmonology, vol. 32, no. 1.

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Keywords: Sarcoidosis; epidemiology; occupational exposure; phenotypes; workplace.

Evidence Level: 4B

Link: <https://www.tandfonline.com/doi/full/10.1080/25310429.2026.2653434>

Introducing DermExpoDB: A collaborative online database software application for occupational dermal exposure data

DermExpoDB (<https://dermexpodb.baua.de/>) is a new web-based database software application developed through a collaboration between the German Federal Institute for Occupational Safety and Health (BAuA), the Netherlands Organisation for Applied Scientific Research (TNO), EBRC Consulting GmbH (EBRC), and European Metals (Europe's non-ferrous metals association). It aims to collect, organize, harmonize, and share occupational dermal exposure data (implementing the FAIR principle for research data sharing as far as possible) to support exposure research, model development and evaluation, and workplace risk assessment for chemicals. DermExpoDB offers extensive contextual data fields, preserves data ownership, and provides tiered access to researchers and the public. This paper introduces the structure and functionality of DermExpoDB, along with the consortium's vision to advance dermal exposure science and occupational health protection.

Schwarz et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: FAIR principle; dermal exposure data; dermal exposure database; dermal monitoring; dermal occupational exposure; dermal workplace exposure; harmonized data format.

Evidence Level: 4B

Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC13274560/>

Occupational exposure to endocrine-disrupting chemicals and colorectal cancer risk - An analysis of four participating cohorts of the Canadian Partnership for Tomorrow's Health study

Introduction: Endocrine-disrupting chemicals (EDCs) may influence cancer risk by interfering with sex hormone balance. Yet, the role of EDCs in colorectal cancer remains underexplored. EDC exposure is common in the environment, but levels are much higher in certain workplaces. This study assessed the association between occupational exposure to selected EDCs and colorectal cancer risk. **Methods:** A case-cohort study was nested within four regional cohorts of the Canadian Partnership for Tomorrow's Health study. Cases included 1083 incident colorectal cancer cases, and a subcohort of 4788 participants was selected at baseline. Occupational exposure to 17 EDCs in participants' longest-held job was estimated using CANJEM, a job exposure matrix, which provided the probability of exposure for each EDC-job combination. Participants were categorized into unexposed (probability = 0), possibly exposed

($0 < \text{probability} < 25\%$) or exposed ($\text{probability} \geq 25\%$) for each EDC. Exposure was conceptualized in three ways: any exposure, grouped by mode of action (estrogenic, antiestrogenic, and antiandrogenic), and individual EDCs. Odds ratios (OR) and 95% confidence intervals (95%CI) were estimated between EDC exposure and colorectal cancer in each regional cohort and pooled using fixed-effect models. **Results:** Compared to unexposed participants, participants exposed to antiestrogenic EDCs had an elevated colorectal cancer risk (OR = 1.31, 95%CI: 1.01-1.70). Risk was increased for possible exposure to arsenic (OR = 1.67, 95%CI: 1.27-2.21) and polychlorinated biphenyls (OR = 3.34, 95%CI: 2.20-5.07). Participants possibly exposed to cadmium (OR = 0.78, 95%CI: 0.63-0.96) had a lower colorectal cancer risk. **Conclusion:** We observed some associations between occupational EDC exposure and colorectal cancer risk. Further investigation of these relationships is warranted.

Pelland-St-Pierre et al. 2026.

Environmental Research, vol. 299.

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Keywords: Colorectal cancer; endocrine-disrupting chemical; epidemiology; job exposure matrix; occupational exposure.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0013935126006298?via%3Dihub>

Work-related asthma from exposure to cardboard and paper products

Background: We assess the contribution of cardboard dust exposure to the development of work-related asthma (WRA). Prior studies on paper-dust-related breathing problems have focused on exposures in the paper milling and pulp industries. There have been no reports of asthma linked to workplace exposure to cardboard dust. **Methods:** From 1988 to 2022, all cases of asthma associated with paper and cardboard dust exposure reported to the Michigan statewide surveillance system were identified. We summarize the characteristics of these workers. **Results:** Eight cases of paper-dust-related asthma were identified. Seven of the cases were attributed to cardboard dust, and one to paper dust exposure. Half were exposed to cardboard dust while packaging and shipping products in cardboard containers. Five of the cases were new-onset asthma; the other three were work-aggravated asthma. No exposures were reported from paper milling or pulp industries. **Conclusions:** Cardboard dust was identified as a major contributor to the incidence of asthma associated with paper products. No cases were identified from the paper milling or pulping industry, despite most research studies reporting respiratory disease in that industry. Cardboard dust within manufacturing industries disproportionately contributed to cases of WRA in the state of Michigan, which is not reflected in the medical literature.

Glanville et al. 2026.

American Journal of Industrial Medicine, vol. 69, no. 6.

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Keywords: Cardboard; dust; e-commerce; manufacturing; paper; pulp; shipping; work-related asthma.

Evidence Level: 5B

Link: <https://onlinelibrary.wiley.com/doi/10.1002/ajim.70080>

Ability of basic physiological monitoring to identify excessive occupational heat strain

Objective: This study assessed the ability of basic physiological metrics to differentiate between acceptable and unacceptable heat strain. **Methods:** A database of final core temperature (Tre), heart rate (HR), and skin temperature (Tsk) for 880 heat stress trials over a wide range of heat stress and clothing was created. Three case definitions based on Tre, HR, or fatigue were used to classify the trials as cases (unacceptable heat strain) or noncases (acceptable heat strain). The area under the receiver operating characteristic curve (AUC) characterized the discrimination ability of 15 individual physiological metrics. **Results:** Generally, AUCs ranged from 0.85, allowing acceptable sensitivity with poor specificity to 0.50 with no predictive power. **Conclusions:** Tre, HR, and fatigue were independent limits of heat strain. A program of personal monitoring needs to recognize independent reasons to classify an exposure as unacceptable.

Bernard et al. 2026.

Journal of Occupational and Environmental Medicine, vol. 68, no. 6.

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Keywords: ROC; discrimination; heat stress; performance; physiological monitoring; wearables.

Evidence Level: 5B

Link: <https://pubmed.ncbi.nlm.nih.gov/41417789/>

Sedentary Practices

Association between occupational sedentary behavior and metabolic syndrome and related diseases in males: A cross-sectional study

Background: Prolonged occupational sedentary behavior has become a prevalent norm in workplaces, posing significant health risks. However, there is a scarcity of studies on the association between occupational sedentary behavior with metabolic syndrome (MetS) and related diseases among workers.

Methods: From June 2023 to November 2024, 2,055 male bus drivers (occupational sedentary group) and sanitation workers (non-sedentary group) were enrolled by cluster sampling. Questionnaire surveys and clinical examinations were collected retrospectively. MetS was diagnosed according to the Guidelines for the Prevention and Treatment of Diabetes Mellitus in China (2024 Edition). Logistic regressions and subgroup analyses were conducted to determine the associations between occupational sedentary behavior with MetS and related diseases. **Results:** The occupational sedentary group (1,158 participants) had higher prevalence of metabolic syndrome (24.61% vs. 22.63%), hypertriglyceridemia (51.81% vs. 36.34%), hypoalbuminemia (12.35% vs. 9.03%), and central obesity (36.62% vs. 29.43%), compared to the non-sedentary group (897 participants). In the logistic regression model, no significant correlations were observed between occupational sedentary behavior and MetS ($P > 0.05$). Compared with non-sedentary group, the sedentary group showed an increased risks of hypertriglyceridemia [OR (95% CI) = 1.77 (1.41, 2.22)], hypoalbuminemia [OR (95% CI) = 1.44 (1.01, 2.06)], and central obesity [OR (95% CI) = 1.37 (1.09, 1.74)]. Subgroup logistic regression analysis showed that among subjects aged >55 years, the associations between occupational sedentary behavior with hypertriglyceridemia and central obesity were significantly stronger (all P for interaction < 0.05). **Conclusion:** Occupational sedentary behavior in males is associated with higher prevalence of hypertriglyceridemia, hypoalbuminemia, and central obesity. Interventions to reduce sedentary behavior are needed to mitigate these risks, such as lifestyle, and organizational management strategies.

Yin et al. 2026.

PLoS One, vol. 21, no. 6.

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Keywords: Sedentary behavior; metabolic syndrome; diseases; male.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0350342>

Physical Activity

Comparison of pain, depression, quality of life, grip strength, and balance according to physical activity levels in office workers

Background: Musculoskeletal problems are commonly observed among office workers. Objective This study aims to examine whether levels of physical activity are associated with differences in pain, depressive symptoms, quality of life, grip strength, and balance in office workers. **Methods:** 61 office workers (29 men and 32 women) who regularly used computers were included in the study. The Centers for Disease Control and Prevention Health-Related Quality of Life-4 for measuring the Quality of Life, the Visual Analog Scale for measuring pain, the Beck Depression Inventory for measuring mental health, the International Physical Activity Questionnaire-Short Form for measuring physical activity, the Biodex Balance System for measuring balance, and two distinct methods for measuring grip strength-the Jamar and Handgrip dynamometers-were all used in the assessments. **Results:** A significant difference in pain during activity was found among the physical activity levels (inactive, minimally active, highly active) ($p < 0.05$). There was no difference in depression scores between the groups ($p > 0.05$). General quality of life scores were higher in the highly active group compared to both the inactive ($p = 0.016$) and minimally active ($p = 0.020$) groups. Right and

left hand grip strength assessed with Jamar ($p = 0.004$, $p = 0.044$; respectively) and right hand grip strength assessed with handgrip ($p = 0.04$) were statistically significantly higher in the highly active group than in the inactive group. For balance with eyes open, anterior-posterior stabilization scores were significantly better in the highly active group compared to the inactive group ($p = 0.004$). **Conclusions:** Physically active office workers exhibited superior outcomes in activity pain, quality of life, grip strength and balance compared to their less active counterparts.

Apaydin et al. 2026.

WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 84, no. 2.

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Keywords: Body balance; musculoskeletal; office workers; physical activity; quality of life; work related injury.

Evidence Level: 5B

Link: <https://pubmed.ncbi.nlm.nih.gov/41529084/>

Musculoskeletal Health

Workplace interventions for chronic musculoskeletal disorders: A systematic review

Objectives: To provide an updated systematic review of the effectiveness of workplace interventions for chronic musculoskeletal disorders, identify key intervention components and assess their impact on health and work-related outcomes. **Design:** Systematic review of randomised controlled trials. **Data sources:** MEDLINE, EMBASE, CINAHL, PsycINFO, Scopus and Web of Science were searched for studies published between 2018 and 2024. Grey literature sources were also consulted. **Eligibility criteria:** Randomised controlled trials and cluster-randomised trials evaluating workplace interventions targeting adults with chronic musculoskeletal disorders were included. Outcomes of interest included pain, functional outcomes, quality of life and work-related outcomes (eg, work ability, productivity, presenteeism and absenteeism).

Data extraction and synthesis: Two reviewers independently screened studies, extracted data and assessed risk of bias using the Cochrane Risk of Bias 2 tool. Due to heterogeneity, only a narrative synthesis was conducted. **Results:** 23 studies involving 2456 participants were included and classified into physical exercise, ergonomic and multicomponent interventions. Physical exercise interventions consistently improved pain and functional outcomes. Digital delivery of exercise interventions demonstrated comparable effectiveness to face-to-face or workplace-based approaches. Multicomponent interventions, combining exercise with ergonomic strategies, demonstrated the most consistent benefits across outcomes. Evidence for work-related outcomes was limited and inconsistent, and quality of life was assessed in only a small number of studies. **Conclusions:** Workplace interventions, particularly multicomponent approaches combining exercise, ergonomics and education, can be effective in improving health outcomes in chronic musculoskeletal disorders. However, evidence on work-related outcomes remains limited and inconsistent.

Skamagki et al. 2026.

BMJ Open, vol. 16, no. 6.

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Keywords: Chronic disease; disease management; musculoskeletal disorders; systematic review; workplace.

Evidence Level: 1A

Link: <https://bmjopen.bmj.com/content/16/6/e115276.long>

Model development of a multivariable prediction model for long-term work-related neck disability among high risk occupations: A prospective cohort study

A Clinical prediction models have been identified as a research priority to identify individuals at risk of persistent musculoskeletal disability. As neck pain is a leading cause of disability among workers exposed to cumulative, repetitive and sustained force, model development in such populations is needed. This study describes the development of a clinical prediction model to predict moderate-to-severe neck disability, measured by the neck disability index (NDI $\geq 22\%$) at 12-months. Sonographers working in Australia and New

Zealand (n = 262) with and without neck disability completed questionnaires evaluating demographic, ergonomic and psychosocial factors. Individual scores, rather than summary scores, were entered into LASSO (Least Absolute Shrinkage and Selection Operator) regression with 5-fold cross validation to identify predictors of persistent disability. The penalised analysis identified two models: an optimal model with 18-items and a simpler model with five items. Following expert consensus, one item (medical history) was removed from the optimal model. Multivariate logistic regression models were then developed using the full sample, demonstrating excellent discrimination for the optimal model (area under the curve (AUC) 0.922, 95% CI 0.875-0.968, sensitivity 79% and specificity 91%) and good discrimination for the 5-item model (AUC 0.894, 95% CI 0.832-0.956). The models suggest that work- or pain-related beliefs and the impact of neck pain on work, headaches or sleep, but not ergonomic factors are the most important predictors of disability in workers at high risk of non-traumatic injuries. However, these models are not definitive and require external validation in larger samples to confirm model calibration and predictive accuracy.

Xie et al. 2026.

Musculoskeletal Science and Practice, vol. 83.

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Keywords: Clinical prediction model; musculoskeletal; neck pain; prognosis; sonography; work-related.

Evidence Level: 4A

Link: [https://www.mskscienceandpractice.com/article/S2468-7812\(26\)00039-1/fulltext](https://www.mskscienceandpractice.com/article/S2468-7812(26)00039-1/fulltext)

Quality of life and physical activity levels of musculoskeletal disorders in workers exposed to high and low frequency magnetic fields: A comparative study

Background: The increased use of electronic devices and technological advances has led to greater exposure to electromagnetic fields (EMF) in various occupational environments. **Objectives:** The study's objective was to assess the effect of work-related musculoskeletal disorders (WMSD) on the quality of life and physical activity levels of individuals exposed to high-frequency magnetic fields. **Methods:** The mean age of one hundred and twenty EMF exposed workers was 37.44 ± 9.16 years. The following were assessed: musculoskeletal symptoms in the last 12 months (using the Extended Nordic Musculoskeletal Questionnaire Version (ENMQ) and the Cornell Musculoskeletal Discomfort Questionnaire (CMDQ), working posture (Ovako Working Posture Analysis System (OWAS), physical activity level (International Physical Activity Questionnaire Short Form (IPAQ-Sf), and quality of life (World Health Organization Quality of Life Scale (WHOQOL-Bref). **Results:** The highest prevalence rate of ENMQ in the last 12 months was 77.5% (n = 31) in the low back region and 50% (n = 20) in the shoulder region in those exposed to high-grade magnetic fields. The mean scores of WHOQOL-Bref were given for those exposed to high and low magnetic fields and those not exposed to magnetic fields ($M \pm SD$: 63.51 ± 8.35 ; 73.27 ± 9.37 ; 76.43 ± 8.43 , respectively). **Conclusion:** The prevalence of WMSD in workers was found to be highest in the low back, shoulder, and hand region in HF-MF workers. LF-MF group, the highest concentration was found to be highest in the neck region. Prevalence rates have been reported for different body sites, with the highest prevalence rates observed in the group exposed to HF-MF. Quality of life was found to be lower in the group exposed to HF-MF.

Çankaya et al. 2026.

WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 84, no. 2.

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Keywords: Exercise; health-Related quality of life; magnetic field; musculoskeletal diseases; musculoskeletal system; occupational disease.

Evidence Level: 4B

Link: <https://pubmed.ncbi.nlm.nih.gov/41664461/>

Between promise and practice: Ethical reflections and organizational dynamics of exoskeleton use in manual work

Introduction: Exoskeletons are increasingly tested and implemented at workplaces, with ambitions connected to improving occupational safety and health (OSH), but with inconsistent impact. While

exoskeleton research is increasing, few studies have empirically analyzed ethical implications of implementing exoskeletons at work. **Method:** This study employs an analytical framework for analyzing ethical perspectives of employing exoskeletons at work. We use this to analyze experiences and perspectives of 55 workers and managers employing exoskeletons in warehouse work, masonry, and carpentry. **Results:** Results show exoskeletons are implemented with purposes of improving OSH while maintaining productivity - but are likely to emphasize existing organizational dynamics and default towards improved productivity with less attention to OSH. This was not, however, the case in carpentry, where influence-based organization and benefits connected to exoskeletons prompted positive OSH assessments. Interestingly, usage of exoskeletons in carpentry indicate the technology may contribute to improving wishes to care for oneself. However, the study shows an overall scarcity of ethical reflections, which may explain inconsistent impact on OSH. These concerns include how exoskeletons reconstitute work by increasing heavy lifting, whether implementation 'takes care of workers' despite their wishes, worker influence and autonomy, and questions of whether managers and workers would actually like to use exoskeletons or recommend their usage. **Practical applications:** The study contributes to literature on ethics in technology implementation by developing empirically applicable methods for analysis and demonstrating that ethically informed, sociologically and organizationally oriented approaches could improve understanding and implementation of new technologies in organizations to achieve more consistently positive OSH outcomes.

Ajslev et al. 2026.

Journal of Safety Research, vol. 97, no. 261-272.

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

Keywords: Algorithmic management; autonomy; ethics; exoskeletons; occupational safety and health; technology implementation.

Evidence Level: 5B

Link: <https://www.sciencedirect.com/science/article/pii/S002243752600040X?via%3Dihub>

Occupational burden in the line of duty: Focus on firefighter musculoskeletal injuries

Background Firefighters are frequently exposed to high physical demands, making them especially vulnerable to musculoskeletal injuries. Understanding the scientific landscape surrounding this issue is vital for guiding preventive strategies and improving occupational health outcomes. **Objective** This study aims to examine the scholarly evolution of research on musculoskeletal injuries among firefighters. It identifies dominant research clusters, high-impact authors, collaboration patterns, and thematic concentrations through a bibliometric analysis. **Methods** A bibliometric analysis was conducted using 152 peer-reviewed publications indexed in the web of science core collection between 1975 and September 2025. Vosviewer software was utilized to create visualizations of co-authorship, co-citation, keyword co-occurrence, and bibliographic coupling networks. A minimum occurrence threshold of five was set for keyword inclusion. Data were evaluated based on frequency, link strength, and temporal trends. **Results** A significant increase in scholarly output was observed after 2010, with a peak in 2023 in both publication count and citation rates. Frequently occurring keywords included "firefighters", "musculoskeletal injury", "occupational health", and "injury prevention". density visualizations revealed core themes centered on work-related injury risks, rehabilitation protocols, and tactical preparedness. **Conclusions** The research landscape on firefighter musculoskeletal injuries has expanded considerably in both scope and academic impact. The field shows increasing interdisciplinary integration, notably between occupational health, rehabilitation science, and emergency response research. These findings highlight the importance of sustained, intervention-based research to reduce injury rates and support long-term workforce sustainability.

Yamak et al. 2026.

WORK: A Journal of Prevention, Assessment & Rehabilitation, vol. 84, no. 2.

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

Keywords: Bibliometric analysis; firefighter; occupational health; work; work-related musculoskeletal disorders; injury.

Evidence Level: 5B

Link: <https://journals.sagepub.com/doi/epub/10.1177/10519815261434529>

Guiding and Supporting Mental Health and Wellbeing

Mental Health

Emotional labor demands, stratification, and mental health pathways in Europe: Evidence from the European working conditions survey

This study examines the distribution of emotional labor demands across occupations, genders, and employment arrangements in Europe, and investigates the mechanisms through which emotional labor demands are associated with mental health outcomes. Using data from the 2015 European Working Conditions Survey (N = 43,850), we construct an Emotional Labor Demands Index and test hypotheses derived from Hochschild's emotional labor theory and the Job Demands-Resources model. Results reveal that women face significantly higher emotional labor demands than men, even within the same occupational categories. Mediation analysis provides evidence that work stress is the primary pathway linking emotional labor demands to mental health: the indirect association through stress fully accounts for the overall relationship (indirect effect = -7.35, bootstrap 95% CI [-7.74, -6.97]). A supplementary analysis confirms that end-of-day exhaustion constitutes a second significant mediating pathway. Consistent with the JD-R model, job resources, particularly social support, are associated with weaker links between emotional labor demands and poor mental health. However, job control alone does not significantly moderate the emotional labor demands-wellbeing relationship, and precarious employment is not associated with stronger links between emotional labor demands and mental health. These findings contribute to understanding emotional labor demands as a gendered occupational health risk and highlight the importance of social support in mitigating their negative consequences.

Antonakakis 2026.

Social Science and Medicine, vol. 399.

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Keywords: Emotional labor demands; European working conditions survey; gender inequality; job demands-resources model; mental health; occupational health.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0277953626002789?via%3Dihub>

Emotional demands and burnout: Differential moderating effect of job resources and age

This study, based on the Job Demands-Resources (JD-R) model, investigates how perceived and contact-related emotional demands contribute to burnout, and whether job resources -deep acting, meaning of work, work control, and social support at work-buffer these effects. A cross-sectional online survey was conducted among professionals in healthcare, care, and human service roles (N = 1,506). Structural Equation Modelling (PLS-SEM) was used to examine moderating effects of job resources on the relationships between emotional demands and the burnout dimensions of exhaustion and disengagement. Both types of emotional demands were positively associated with both burnout dimensions. While job resources were generally negatively associated with exhaustion and disengagement, they did not moderate the effects of emotional demands in the expected buffering direction. Instead, meaning of work and social support amplified the relationships between contact-related and perceived emotional demands, respectively, and exhaustion. Exploratory analyses revealed no significant linear or curvilinear age-based moderation, suggesting that these moderation patterns function similarly across age groups. Overall, the findings indicate that while job resources may reduce general burnout, they are not universally protective in emotionally demanding work. This study highlights the need to refine the JD-R assumption that resources consistently buffer job demands and underscores the importance of identifying alternative resources and targeted interventions in emotionally demanding roles.

Popucza 2026.

PLoS One, vol. 21, no. 6.

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Keywords: Emotional demands; burnout; job resources; age.

Evidence Level: 4B

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0351940>

Emotional demands at work measured via a job exposure matrix and sickness absence from common mental disorders: A population-based study of sex differences

A Emotional demands in relational work are increasingly recognized as risk factors for common mental disorders (CMDs), yet evidence on the sex-specific population burden for long-term sickness absence (LTSA) with CMD diagnoses remains limited. We conducted a nationwide cohort study of 1.84 million employed individuals in Norway aged 17-74, excluding those with CMD-related LTSA in 2017. Exposure to emotional demands in 2018 was assigned using an occupation-based job exposure matrix (JEM) we developed for this study from nationally representative survey data (n = 40,700). CMD-related LTSA (>16 days) was ascertained from administrative registers with follow-up from January 1 to December 31, 2019. Cox proportional hazards models estimated hazard ratios (HRs), population attributable fractions (PAFs), and population attributable cases (PACs), stratified by sex, and adjusted for age, education level, immigration background, tenure, working hours, job demands and job control. Higher emotional demands were associated with CMD-related LTSA in an exposure-response pattern for both sexes. Among women, adjusted HRs increased from 1.24 (Q2) to 1.77 (Q4), with a PAF of 29.7% corresponding to 10,757 cases. Among men, adjusted HRs increased from 1.20 (Q2) to 2.61 (Q4), yielding a PAF of 23.3% corresponding to 4116 cases. Women accumulated more person-years in higher emotional-demand quartiles than men (64% vs 33%), and differential exposure accounted for 23.4% (95% CI: 15.8-34.2) of women's excess risk. Occupations characterized by high emotional demands are associated with increased risk of CMD-related LTSA, with women bearing a greater population burden due to higher exposure levels and baseline risk.

Sterud et al. 2026.

Social Science and Medicine, vol. 399.

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

Keywords: Attributable risk; emotional labor; occupational mental health; occupational stress; psychosocial working conditions; sex-stratified analysis.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0277953626003072?via%3Dihub>

Psychosocial Issues

Associations of work- and personal-life-related techno-stressors with emotional exhaustion, sickness absenteeism, and turnover intentions in public administration

Digital technology is increasingly embedded in our professional lives, exposing us to various techno-stressors. Based on the Stressor-Strain-Outcome (SSO) model, we developed a holistic perspective on technostress and a research model to investigate how work-related and personal-life-related techno-stressors among employees in public administration organizations impact emotional exhaustion, sickness absenteeism, and turnover intentions. Furthermore, we investigated how psychological resilience moderates the relationship between work-related and personal-life-related techno-stressors and emotional exhaustion. The study was conducted in public administration organizations in Slovenia and included 1191 employees in the study sample. We used structural equation modeling to test the proposed research model. We found that some work-related techno-stressors significantly associated with employees emotional exhaustion. Among the personal-life-related techno-stressors, information overload demonstrated positive association with emotional exhaustion. In addition, emotional exhaustion was positively related to sickness absenteeism and turnover intention. Although no direct association between techno-stressors and sickness absenteeism was observed, our findings demonstrate that techno-stressors are indirectly linked to sickness absenteeism via emotional exhaustion. This study thus provides the first known empirical evidence of the indirect associations between techno-stressors and sickness absenteeism through emotional exhaustion, thereby filling a notable research gap.

Buzeti et al. 2026.

Acta Psychologica, vol. 266.

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Keywords: Emotional fatigue; ICT-related job demands; intention to leave; mental resilience; public sector employees; sickness absence; technostress.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0001691826005731?via%3Dihub>

What characterizes employees with emotional exhaustion and employees with work overload?

Emotional exhaustion has been discussed as a major contributor to work ability problems, with substantial economic, individual, and social consequences. Research largely focuses on specific professions and sometimes overlooks that exhaustion and work overload problems are partly distinct. This study uses a differential analysis to explore working conditions and individual characteristics in employees with emotional exhaustion or perceived work overload, aiming to identify potential common risk factors. A representative German cross-sectional sample of 2289 employees aged 15-67, working at least 10 h per week, was analyzed. Employees with and without treatment for exhaustion, and with and without perceived work overload, were compared using variance analysis. Overloaded employees reported more work demands, while exhausted employees appear to be more often female and not in their preferred occupation. Several psychosocial work factors (e.g., responsibility) were more consistently associated with the overload and exhaustion groups than many of the physical work conditions. Employee characteristics such as openness and internal locus of control appeared to be similarly distributed across groups. Overload without exhaustion can be distinguished from combined exhaustion and overload, suggesting that work overload may occur with or without exhaustion, in relation to individual psychosocial resources. Preventive interventions for work ability may benefit from addressing overload as a distinct risk factor, besides illness-related exhaustion.

Elster-Kann et al. 2026.

International Journal of Work, Environmental Research and Public Health, vol. 23, no. 6.

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Keywords: Emotional exhaustion; job demands; occupational health; psychosocial work factor; sick leave; work ability; work overload; workplace.

Evidence Level: 4B

Link: <https://www.mdpi.com/1660-4601/23/6/794>

Factors impacting Western Australian midwives' intention to stay: A mixed methods study

Problem: Midwifery workforce sustainability remains a critical concern for maternity services. Existing literature predominantly focuses on burnout and attrition, offering limited insight into what influences midwives' decisions to remain within specific workplaces. **Background:** Midwives consistently report strong professional commitment alongside growing workforce instability. National data indicate that uncertainty about current roles does not necessarily reflect disengagement from the profession. Understanding workplace-level influences on retention is therefore essential for targeted workforce strategy. **Aim:** To examine how workplace stress and satisfaction with the practice environment are associated with Western Australian midwives' intention to stay in their current job and in the profession. **Methods:** A cross-sectional survey of midwives employed in Western Australian maternity services was conducted. Validated instruments assessed satisfaction with the practice environment, workplace stress, and intention to stay. Quantitative data were analysed descriptively, and open-ended responses were examined using categorical content analysis. **Findings:** Midwives demonstrated strong commitment to the profession, with greater uncertainty about remaining in their current workplace. Positive perceptions of local leadership and collegial relationships contrasted with dissatisfaction at organisational level, particularly regarding governance participation and resource adequacy. Decisions to stay were shaped by whether practice environments enabled alignment with professional values. **Conclusion:** Retention is primarily influenced by site-level organisational conditions rather than professional disengagement, highlighting modifiable levers for strengthening workforce stability in maternity services.

Atkinson et al. 2026.

Women and Birth, vol. 39, no. 3.

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Keywords: Intentions to stay; job motivation; midwifery workforce; occupational engagement; practice environment; workplace stress.

Evidence Level: 5A

Link: <https://www.sciencedirect.com/science/article/pii/S1871519226000533?via%3Dihub>

"It feels like a loss of one's own identity" - Work identity in persons suffering persisting post-concussion symptoms: A qualitative study

Purpose: To examine the impact of persisting post-concussion symptoms (PPCS) on work identity, and to explore how work identity relates to the acceptance and coping mechanisms in individuals experiencing PPCS. **Methods:** Twenty-three in-depth semi-structured interviews with persons suffering from PPCS for > 6 months, who attempted to return to work within the last 6 months. The data were analyzed using thematic analysis combined with hermeneutical phenomenological approach. **Results:** We identified one global theme "Me and my work identity". Participants expressed a profound connection between work and self-understanding, leading to impact on personal identity when unable to perform at work. The global theme was unfolded in four themes: 1. Confronting a changed self: Participants described a discrepancy between their pre- and post-injury self-perception, leading to a sense of loss and lower self-worth. 2. Negotiating new realities: Some struggled to accept changes in capabilities and feared being perceived as inadequate. 3. Living with emotional turbulence: Coping with PPCS was characterized by emotional fluctuations, including frustration, sadness, guilt, and anxiety. 4. Navigating between worlds: Participants employed various coping strategies to manage symptoms and navigate challenges. **Conclusion:** The results highlight the profound impact of PPCS on individuals' work identity and emotional well-being during work resumption.

Rytter et al. 2026.

Disability and Rehabilitation, vol. 48, no. 12.

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Keywords: Concussion; mild traumatic brain injury; persisting post-concussive symptoms; return to work; vocational support; work identity.

Evidence Level: 5B

Link: <https://pubmed.ncbi.nlm.nih.gov/41196053/>

The impact of social media exposure to war content on emotional exhaustion, anxiety, and work performance: The moderating role of organizational support

The increasing accessibility of social media has heightened individuals' exposure to war-related content, raising concerns about its psychological and professional consequences. This study examines the impact of frequent exposure to such content on employees' mental health and work performance through the lens of the Stimulus-Organism-Response (S-O-R) framework. A structured questionnaire was used for data collection through validated measures of interest War Media Exposure Scale (WarMES), Generalized Anxiety Disorder-7 (GAD-7), Maslach Burnout Inventory (MBI), Perceived Organizational Support (POS) scale, and a self-reported measure of work performance. The findings reveal that emotional exhaustion and anxiety mediate the relationship between social media exposure to war-related content and workplace productivity. Moreover, organizational support plays a critical moderating role in mitigating these negative effects. By incorporating digital stressors into workplace mental health research, this study contributes to the understanding of social media's implications for employee well-being and performance. The findings highlight the necessity for organizations to implement targeted mental health strategies to support employees navigating digital distress.

Yacoub et al. 2026.

Acta Psychologica, vol. 266.

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

Keywords: Anxiety; emotional exhaustion; organizational support; social media exposure; work performance.

Evidence Level: 5B

Link: <https://www.sciencedirect.com/science/article/pii/S0001691826007146?via%3Dihub>

Fostering Work Participation

Return to Work

Higher job exposures are associated with reduced return-to-work two years after rehabilitation in a nationwide cohort study based on German Pension Insurance data

Return-to-work (RTW) after medical rehabilitation is an important indicator of post-rehabilitation labour market participation, yet evidence on its association with occupation-based job exposure over longer follow-up periods remains limited. This nationwide retrospective cohort study examined the association between job exposure and RTW within 24 months post-rehabilitation using routine administrative data from the German Pension Insurance. The study included 621,695 individuals aged 18-63 years who completed medical rehabilitation between 2014 and 2019. Job exposure was assessed using the Overall Job Exposure Index, integrating physical and psychosocial exposures, and categorised into low, moderate, and high exposure. Initial RTW was defined as at least one month of employment, and stable RTW as at least four consecutive months within 24 months post-rehabilitation. Associations were analysed using Cox proportional hazards regression models with progressive adjustment for sociodemographic, work-related, and health-related factors. Within 24 months, 90.3% achieved initial RTW and 84.2% stable RTW. Higher job exposure was consistently associated with lower RTW rates. In fully adjusted models, moderate and high exposure were associated with a reduced likelihood of initial RTW (HR 0.903 [95% CI 0.897-0.909] and 0.872 [95% CI 0.866-0.878]) and stable RTW (HR 0.878 [95% CI 0.872-0.884] and 0.837 [95% CI 0.830-0.843]), compared with low exposure. These findings provide population-level evidence that occupation-based job exposure is associated with RTW after medical rehabilitation.

Brünger et al. 2026.

Scientific Reports, vol. 16, no. 1.

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Keywords: Job demands; job exposure; occupational health; rehabilitation; return-to-work; Routine data.

Evidence Level: 4B

Link: <https://www.nature.com/articles/s41598-026-55323-0>

To what extent are work-related factors integrated into physiotherapy practice? Insights from a survey of Canadian physiotherapists

Introduction: Disability can significantly impact a person's capacity to work and may lead to potentially life-threatening difficulties. Physiotherapists are well-positioned to address occupational issues for individuals with physical disabilities. However, it remains unclear to what extent Canadian physiotherapists integrate work-related factors in their clinical reasoning and practice. **Objective:** To gather Canadian physiotherapists' perceptions regarding the integration of work-related factors into their clinical practice.

Methods: A cross-sectional online survey was disseminated among physiotherapy professionals in Canada working with employed disabled individuals. **Results:** A total of 191 eligible physiotherapists participated.

Seventy percent (n = 134) of them reported regularly addressing work-related factors in their practice, with most feeling efficient in doing so. However, only 14% (n = 27) to 30% (n = 57) did often address more complex factors in their practice, such as the psychosocial factors and those that are related to workplace and on-site evaluations. Identified barriers include limited access to standardized assessment questionnaires. The development of Canadian-specific return-to-work guidelines is also perceived as an avenue to mitigate these barriers. **Conclusion:** Canadian physiotherapists might be able to support employed disabled individuals, but they require enhanced support to fully integrate work-related factors into practice. Conclusions should be taken with caution as the results are self-reported.

St-Georges et al. 2026.

Musculoskeletal Science and Practice, vol. 83.

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Keywords: Clinical competence; Person with disabilities; Physical therapists; Return to work; Vocational rehabilitation.

Evidence Level: 4B

Link: [https://www.mskscienceandpractice.com/article/S2468-7812\(26\)00047-0/fulltext](https://www.mskscienceandpractice.com/article/S2468-7812(26)00047-0/fulltext)

Healthcare professionals' experiences with vocational rehabilitation for people with inflammatory arthritis

Purpose: To explore healthcare professionals' (HPs') experiences of work-related challenges among people with inflammatory arthritis (IA). **Methods:** A qualitative, interview study using a hermeneutic approach was planned. HPs with different professional backgrounds working with people with rheumatic diseases were recruited. An interview guide was developed according to relevant literature. The analysis followed Graneheim and Lundman's qualitative content analysis. **Results:** Twenty-one HPs representing two municipalities, three hospitals, a university college and one patient organisation participated in individual semi-structured interviews. The analysis derived three themes: (1) Work identity and living with IA. The disease causes emotional and economic effects regarding fulfilling roles in everyday life, including work; (2) Opportunities and challenges when supporting patients. Promoting and inhibiting factors that affect retention in the labour market include organisational factors at work, opportunities for involving the patient's relatives and working interprofessionally and cross-sectorally; and (3) Cooperation with employers. People with IA use different strategies and opportunities for compensatory schemes to maintain work. Cooperation with employers is an important part of vocational rehabilitation. **Conclusion:** HPs experience that people with IA find it difficult to manage their everyday life, including work. HPs want to support people with IA to maintain their jobs but find it difficult if the patient has not informed the employer about the disease. This study clarifies the need for vocational rehabilitation to support people with IA to stay in work, from time of diagnosis through hospitalisation, municipal rehabilitation and job clarification.

Madsen et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 2.

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Keywords: Axial spondyloarthritis; complex intervention; psoriatic arthritis; rheumatoid arthritis; WORK-ON; work rehabilitation.

Evidence Level: 5B

Link: <https://link.springer.com/article/10.1007/s10926-025-10297-0>

Examine facilitators and barriers to Return to Work (RTW) for employees with Common Mental Disorder (CMD) symptoms: A Multi-Stakeholder Qualitative Study

Returning to work (RTW) following sickness absence due to common mental disorder (CMD) symptoms, such as anxiety, depression and stress, is increasingly recognised as a critical yet complex phase of recovery. Despite this, individuals do not always experience the process as supportive or straightforward. This study explored the factors shaping RTW by examining the perspectives of service users, employment advisors (EAs) and human resource (HR) professionals. In a qualitative study, using purposive sampling, we recruited 17 participants across the three stakeholder groups. Data were collected through semi-structured interviews and analysed using thematic analysis. The findings suggest that RTW is shaped by a dynamic interplay between individual experiences, workplace relationships and organisational structures. Participants described returning to work as an ongoing and often uncertain process, influenced by shifts in confidence, expectations of support and the extent to which workplaces were able to respond flexibly to individual needs. While some accounts reflected collaborative and supportive environments, others highlighted disconnection, misalignment and unmet expectations across stakeholders. Overall, the findings point to RTW as a negotiated process, requiring alignment between employees, managers and organisational systems. The study highlights the importance of consistent, flexible and context-sensitive approaches to support sustainable RTW following CMD-related absence.

Khatte et al. 2026.

International Journal of Work, Environmental Research and Public Health, vol. 23, no. 6.

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Keywords: Anxiety; depression; employment; mental health; return to work; stress.

Evidence Level: 5B

Link: <https://www.mdpi.com/1660-4601/23/6/792>

Presenteeism and Absenteeism

Quasi-experimental evaluation of a digital occupational health management system on presenteeism and work efficiency among healthcare workers

Background: Presenteeism, defined as working while unwell, is a common occupational health issue that compromises healthcare worker wellbeing, work efficiency, and patient safety. High workload, insufficient organizational support, and limited systematic health management may exacerbate presenteeism in hospital settings. This study aimed to develop and evaluate a Digital Occupational Health Management System (OHMS), grounded in the Job Demands-Resources model, to reduce presenteeism and improve work-related outcomes among healthcare workers. **Methods:** A quasi-experimental pre-post study with a matched contemporaneous control group was conducted among healthcare workers at Taizhou Fourth People's Hospital, Jiangsu, China. The OHMS was implemented over 12 months, with the primary effectiveness assessment performed at 6 months and the subsequent 6 months used for continued monitoring, implementation maintenance, and system optimization. A total of 300 healthcare workers were included in the OHMS intervention group, and 300 contemporaneous non-intervention controls were selected using the same eligibility criteria after propensity score matching. The primary outcome was presenteeism, assessed using the Stanford Presenteeism Scale-6. Secondary outcomes included psychological wellbeing, emotional exhaustion, and objective work performance indicators. Difference-in-differences analysis was used as the primary analytical approach. **Results:** After OHMS deployment, 286 of 300 participants completed system registration, with a registration rate of 95.3%. The average monthly active usage rate during the 6-month primary evaluation period was 82.4%. Compared with the matched control group, the intervention group showed greater reductions in presenteeism, emotional exhaustion, sick leave days, overtime hours, and absenteeism rate, as well as greater improvements in psychological wellbeing and work efficiency. Multiple regression showed that workload was positively associated with presenteeism, whereas organizational support, system usage frequency, and wellbeing were negatively associated with presenteeism. Structural equation modeling supported a pathway in which workload increased presenteeism directly and indirectly through reduced wellbeing. **Conclusion:** The OHMS intervention was associated with reduced presenteeism, improved psychological wellbeing, and better work-related performance. Longer follow-up and multicenter validation are warranted.

Qiao et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Job Demands–Resources model; difference-in-differences; digital intervention; healthcare workers; occupational health management; organizational support; presenteeism; wellbeing.

Evidence Level: 3B

Link: <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1827192/full>

Determinants of high annual sickness absence in older workers: A prospective cohort study in England (Health and Employment After Fifty study)

Objectives: To quantify contributions of health- and employment-related risk factors to high annual sickness absence (HASA) among a population-based cohort of older workers in England. **Design:** Prospective cohort study. **Setting:** 24 general practices geographically dispersed across England. **Participants:** Men and women initially aged 50–64 years recruited as part of the Health and Employment After Fifty study. **Primary and secondary outcome measures:** HASA, defined as a total of more than 20 days sickness absence over a 12-month interval. **Results:** 4726 men and women were analysed, providing data on 15 333 12-month follow-up intervals. HASA was reported in 1003 (6.5%) follow-up intervals. In adjusted models, the aspects of health with the largest population-attributable fractions (PAFs) % were disabling musculoskeletal pain (25.4, 95% CI 21.2 to 29.3) and depression (11.3, 95% CI 6.1 to 16.2). Among long-term determinants of health, high body mass index had the greatest impact (PAF% 18.2, 95% CI 8.9 to 26.5). After allowance for health, high physical demands of work (PAF% 22.8) and eligibility for more generous sick pay (PAF% 25.8) made substantial contributions. **Conclusions:** Strategies to minimise avoidable sickness absence at older ages should prioritise: reversal of recent increases in disabling mental illness; encouragement of continued activity in workers with non-specific musculoskeletal pain, supported

by modification of occupational tasks if needed; timely surgery for disabling osteoarthritis; reducing obesity; and increasing opportunities for placement in work that is less demanding physically. Further research is needed to clarify the impacts of generous sick pay on patterns of sickness absence.

D'Angelo et al. 2026.

BMJ Open, vol. 16, no. 6.

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Keywords: Epidemiology; risk factors; workplace.

Evidence Level: 4B

Link: <https://bmjopen.bmj.com/content/16/6/e113474.long>

Suffering of common mental disorders but still at work: A longitudinal study during periods of differences in regulations for having sick leave

Purpose: The aim was to analyse the relationships between work environment characteristics and periods of sick leave (> 14 days) in individuals diagnosed with common mental disorders (CMDs) across 1993-2014. Additionally, the study describes changes in the work environment and sick leave trends over these two periods. **Methods:** From the Swedish Work Environment Surveys (SWES) 1993-2013, participants with a diagnosis of a CMD up to five years before the interview were drawn (n = 3795). Risk ratios (RRs) of the annual average number of sick leave days one year after the interview in SWES (1993-2014) were calculated for various work environment characteristics, along with 95% confidence intervals (CIs).

Results: Having flexible working hours (RR 0.65: 0.46-0.91) and having an active job (RR 0.60: 0.41-0.88), that is, high job demands and high job control, were associated with a significantly decreased risk for a spell of sick leave > 14 days after adjusting for interview year, age, sex, and educational level. There was a tendency that also some aspects of job control, i.e. influence over working hours (RR 0.79: 0.62-1.01) and influence over work pace (0.80: 0.62-1.03), were associated with a lower risk of having > 14 days of sick leave. There was a more substantial effect on these work environment factors in 2009-2013 than 1993-2007. **Conclusion:** Enabling flexible working hours and influencing work pace and working hours can decrease the risk of sick leave among employees diagnosed with a CMD.

Helgesson et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 2.

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Keywords: Common mental disorder; flexible work; job control; sick leave; telework; working conditions.

Evidence Level: 4B

Link: <https://link.springer.com/article/10.1007/s10926-025-10269-4>

Working hours

How work hours affect well-being: A target trial emulation

Studies link longer work hours to multiple dimensions of well-being, but correlations do not show what would happen if hours changed. Target-trial emulation addresses this problem by specifying the experiment we would like to run and then approximating it with observational data. Using three annual waves of the New Zealand Attitudes and Values Study (NZAVS, N = 24,579; 2020-2023), we estimate how 28 well-being outcomes would differ if the same cohort of pre-retirement adults worked 10 more or 10 fewer hours per week than observed. We compare what would happen if weekly hours shifted up by 10 or down by 10 with what actually occurred, after accounting for dropout, using machine-learning methods to adjust for baseline differences. Increasing work hours by 10 most clearly raises fatigue and reduces sleep; body mass index (BMI) and perceived physical health also shift adversely but are more sensitive to residual confounding, while perceived support increases slightly but remains confounding-sensitive. Decreasing work hours by 10 most clearly lowers fatigue; BMI and perceived physical health also shift favourably but are likewise more sensitive to residual confounding. Most outcomes show little movement under either policy, and the downward shift is better supported by the data. Naive baseline associations are broader, larger, and sometimes reversed in sign, whereas sensitivity analyses (E-values) indicate that the clearest fatigue effects are robust to moderately strong residual confounding. Under the stated assumptions, work-hour shifts affect recovery and perceived physical health more than broad well-being.

Chong et al. 2026.

PLoS One, vol. 21, no. 6.

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Keywords: Work hours; well-being; shifts.

Evidence Level: 4A

Link: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0350816>

Wellness Programs

Do time management interventions support wellbeing in the workplace? A systematic review

Although empirical evidence demonstrates the association between time management and wellbeing, it is unclear whether time management interventions (TMIs) effectively support wellbeing in the workplace. Given rising concerns over employee wellbeing and the prevalence of time challenges in the workplace, TMIs may play a critical role in wellbeing promotion. This systematic review aimed to assess the effects of TMIs on workplace wellbeing, investigate the characteristics of these TMIs and evaluate the quality of these studies. Systematic searches of randomised controlled trials and quasi-experiments published on or before 10 August 2025 were conducted in seven databases. The search was conducted for TMIs delivered in a workplace context, measuring at least one wellbeing variable. Seven studies met the inclusion criteria (n = 442). A narrative synthesis reported on intervention content, delivery and effectiveness, revealing a limited and inconsistent evidence base to support TMI efficacy. Cochrane risk-of-bias tools were used, finding low quality across the studies. Findings call for more experimental evidence, with evaluation of a broader range of wellbeing variables needed. Drawing from the synthesised interventions, the process model of integrated time interventions is presented, providing theoretical advancements in the recognition of time interventions as wellbeing promoters. Finally, the review encourages higher quality intervention reporting practices to enhance the transparency and replicability of TMIs.

Young et al. 2026.

Applied Psychology: Health and Well-being, vol. 18, no. 3.

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Keywords: Quasi-experimental; randomised controlled trial; systematic review; time management; time management intervention; workplace wellbeing.

Evidence Level: 1A

Link: <https://iaap-journals.onlinelibrary.wiley.com/doi/10.1111/aphw.70149>

The feasibility of an app-based worksite health promotion program to improve mental well-being and work-related vitality in university hospital workers: Process and preliminary effect evaluation study

Background: University hospital employees face role-specific stressors that can impair mental well-being and work-related vitality. While worksite health promotion programs show potential for improving mental well-being by targeting lifestyle behaviors, most target single professions or hospital subunits, and evidence for mental well-being and work-related vitality remains mixed. Mobile apps offer unique advantages for delivering such worksite health promotion programs hospital-wide. However, accessible interventions tailored to a diverse workforce are lacking. **Objective:** This study aimed to investigate the feasibility of an app-based worksite health promotion program (the Recharge360 program [The Recharge Company]) targeting multiple lifestyle behaviors, including a team-based competition element, for improving mental well-being and work-related vitality of hospital employees over a 5-month follow-up period by evaluating two objectives: (1) the implementation process of the program, and (2) the preliminary effects of the program on mental well-being and work-related vitality. **Methods:** We included 532 employees (mean age 43, SD 12 y; n=482, 91% women; n=480, 90% highly educated) from a university hospital in Amsterdam, the Netherlands. The study had a single-arm, longitudinal pretest-posttest design lasting 5 months, during which employees participated in the 5-day Recharge360 program (Recharge week) 3 times-in weeks 1, 9, and 17. At baseline (T0) and after each Recharge week (T1-T3), we assessed mental well-being, work ability, need for recovery, and task performance. The process was evaluated by assessing recruitment, attrition,

and survey completion rates, and the degree of participation. Preliminary effects were evaluated by linear mixed model regression analyses to assess changes in mental well-being and work-related vitality between baseline and follow-up. **Results:** Recruitment appeared feasible, but attrition rates were high (up to 70% in the final Recharge week), and the degree of participation decreased over time. We showed statistically significant, albeit small, increases in well-being at T3 (unstandardized β coefficient=2.08, 95% CI 0.33-3.84), with progressively larger improvements in the analyses among those who started at least 1, 2, and all 3 Recharge weeks (unstandardized β coefficient=3.27, 95% CI 1.09-5.45). Results for work-related vitality were mixed. The need for recovery remained unchanged, task performance increased slightly at T3 (unstandardized β coefficient=0.16, 95% CI 0.07-0.24). Work ability showed a small, but statistically significant, decline across follow-up (unstandardized β coefficient=-0.46, 95% CI -0.64 to -0.29).

Conclusions: This app-based worksite health promotion program might be feasible to implement in a university hospital setting and shows potential to slightly improve mental well-being, but primarily for a selective group of highly educated, health-conscious women. While these findings support further investigation in a randomized controlled trial in similar university hospital settings, they also highlight the need for more participatory study designs to improve the tailoring of program components and engagement of underrepresented groups, as well as for a supportive culture and population-based approaches at the organizational level.

Kremers et al. 2026.

JMIR Formative Research, vol. 10.

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Keywords: Feasibility study; hospital personnel; lifestyle; mental well-being; vitality; workplace health promotion program.

Evidence Level: 4B

Link: <https://formative.jmir.org/2026/1/e85135>

Organisational Issues

Does having a certified occupational health and safety management system lead to a greater injury rate reduction? An evaluation of the Certificate of Recognition program in Ontario, Canada

Introduction: Occupational health and safety management system (OHSMS) programs are designed to create safer workplaces. However, research on their effectiveness is limited in terms of representation and rigor. This study evaluates whether firms that obtained an OHSMS certification via the Certificate of Recognition (COR) program experienced greater injury rate reductions than similar non-certified firms in Ontario, Canada. **Method:** Using firm and claim-level data from the Workplace Safety and Insurance Board and COR registration data from the Infrastructure Health and Safety Association, the effect of becoming certified on firm-level injury rates was assessed using a matched difference-in-differences study design with population averaged negative binomial regression models. **Results:** A total of 346 certified firms were matched with 310 non-certified firms during the years 2009 to 2020. Firms that became certified were associated with a greater reduction in the lost time injury rate (incidence rate ratio (IRR): 0.72; 95% confidence interval (CI): 0.63-0.84), high-impact injury rate (IRR: 0.80, 95% CI: 0.66-0.97) and no reduction in the no lost time injury rate (IRR: 1.00, 95% CI: 0.92-1.08) relative to the change in similar non-certified firms. The effectiveness of certification was strongest in firms that were recently certified, larger, and in the construction sector. **Conclusions:** The findings suggest that COR can be an effective program in reducing injury rates in construction firms, and among larger and more recently certified firms. It is less effective in smaller and earlier certified firms, and not effective in non-construction firms. Furthermore, the effectiveness in construction firms may be subject to unmeasured selection bias. **Practical applications:** OHSMS program evaluations can inform decision-makers on when, and under what circumstances programs work and where improvements can be made. In particular, the COR program appears most effective for large construction firms whereas small construction firms may benefit from other tools.

Macpherson et al. 2026.

Journal of Safety Research, vol. 97, no. 1-6.

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Keywords: Canada; certification; injury; intervention; occupational health and safety; Ontario.

Evidence Level: 4B

Link: <https://www.sciencedirect.com/science/article/pii/S0022437526000174?via%3Dihub>

Work Ability

Realising the case management ideal in multi-organisational coordination work to support work ability and (re)employment in Finland

Purpose: Inclusivity policies can positively impact labour shortages. The ideal approach to work ability services has shifted from being system centred to being individually tailored and human centred. Service systems are complex in many countries and case managers, referred to here as coordinators, play a key role in achieving the human-centred goal of increasing labour force participation. However, the literature on the practices of these coordinators and their distinct roles in supporting work ability and (re)employment and the contexts in which they do so is limited. This study aimed to clarify what these coordinators do and to explore the extent to which coordinating work meets the ideal of individualised support in different operating contexts. **Methods:** The design was a mixed-method study, which utilised two data sources to answer the same complex questions. It consisted of surveys, and in-depth interviews that were based on its results. A total of 241 professionals from various services responded to these surveys, and 15 volunteers were interviewed. The questionnaire data were analysed using descriptive statistical methods, whereas the interviews were examined using thematic analysis. After this, the data were integrated according to a multi-level context framework. **Results:** Initially, the coordinators from different sectors shared similar human-oriented values and ways of working. However, crossing administrative and organisational boundaries proved difficult, even though this was essential for the continuity of the client's process. As a result, ideal case management was not fully achieved. **Conclusion:** The findings highlight a necessity for joint policies and practices, and organisational engagement to long-term collaboration.

Juvonen-Posti et al. 2026.

Journal of Occupational Rehabilitation, vol. 36, no. 2.

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Keywords: Active labour market policy; case management; mixed methods; re-employment; return to work; vocational rehabilitation.

Evidence Level: 5B

Link: <https://link.springer.com/article/10.1007/s10926-025-10274-7>

Adapting to the Future of Work

Aging Workforce

Effects of job lock and work arrangements on the incidence of occupational injuries to older workers in the Health and Retirement Study, 2010-2022

Introduction: Job lock-when older workers cannot retire owing to financial or health insurance needs-is potentially an occupational safety issue. This study explored the longitudinal effect of job lock on work-related injuries to older workers, hypothesizing that job lock increases their injury rates. It then examined how this relationship varies across work arrangements. **Methods:** Analysis using 2010-2022 Health and Retirement Study data for workers aged 55-64 years and ≥65 years compared work exposures in each wave with injuries reported in the next wave. Repeated-measures negative binomial regression estimated longitudinal effects of job lock (financial, health insurance, or both) on work-related injuries, exploring effect modification by work arrangements (full time, part time, partly retired, self-employed). Analysis was conducted in 2025. **Results:** Workers aged 55-64 years overall had 51.8 work-related injuries per 1,000 person-years, compared with 44.3 work-related injuries per 1,000 person-years for workers aged ≥65 years. Among those aged 55-64 years, these rates were 48% higher with job lock for financial reasons (incidence rate ratio=1.48 [95% CI=1.04, 2.13]) and similarly for health insurance reasons. Potentially stronger effects

were observed for workers in full time (incidence rate ratio=1.57 [95% CI=1.15, 2.16]) and possibly part-time roles (incidence rate ratio=1.72 [95% CI=0.86, 3.46]). After age 65 years, these data suggest that workers had a 29% higher injury rate from financial job lock (incidence rate ratio=1.29 [95% CI=0.66, 2.51]).

Conclusions: Job lock was associated with higher work-related injury rates, particularly for those in full- or part-time roles before age 65 years. For self-employed, partly retired, or workers aged >65 years, job lock presented less clear injury risk, possibly from differences in job tasks or selection into safer roles. Further research should address mechanisms of job lock to elevate injury risks. Improving access to retirement resources earlier in workers' careers may help to address work-related injuries and economic challenges of aging.

McFalls et al. 2026.

American Journal of Preventative Medicine, vol. 70, no. 6.

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Keywords: Occupational injuries; older workers; job lock; work arrangements.

Evidence Level: 4B

Link: [https://www.ajpmonline.org/article/S0749-3797\(26\)00032-2/fulltext](https://www.ajpmonline.org/article/S0749-3797(26)00032-2/fulltext)

Technology

Impact of artificial intelligence and work digitalization on mental health and occupational well-being: A scoping review

Background: The rapid expansion of artificial intelligence (AI) and work digitalization is transforming occupational environments, introducing new psychosocial risks while also creating potential opportunities for improving workplace well-being. However, current evidence remains fragmented and heterogeneous.

Objective: This scoping review aimed to map and synthesize the existing scientific and grey literature on the impact of AI and work digitalization on mental health, well-being, and psychosocial risks among adult workers.

Methods: A scoping review was conducted following the Arksey and O'Malley framework and reported according to PRISMA-ScR guidelines. A comprehensive search was performed across multiple databases (PubMed, Scopus, Web of Science, ScienceDirect, Scielo, LILACS, Dialnet, and Google Scholar) and grey literature sources from international occupational health organizations. Studies published between 2016 and 2026 in English and Spanish were included. A total of 43 sources (23 scientific articles and 20 grey literature documents) were analyzed using thematic synthesis. The review explicitly distinguishes between AI-specific occupational exposures and broader digitalization processes to improve conceptual clarity. **Results:** AI and digitalization were consistently associated with multiple psychosocial risks, including technostress, work intensification, job insecurity, reduced autonomy, and blurred work-life boundaries. Algorithmic management and digital monitoring emerged as key drivers of stress, anxiety, and burnout. However, potential benefits were also identified, such as increased efficiency, flexibility, and professional development, particularly when supported by adequate training and organizational resources. The impact of digitalization was context-dependent and unevenly distributed, disproportionately affecting older workers, lower-skilled employees, and vulnerable groups. Digital and AI literacy emerged as key protective factors. **Conclusion:** AI and work digitalization represent complex and context-dependent determinants of occupational mental health, with both risks and opportunities depending on organizational, technological, and individual factors. These findings highlight the need for human-centered implementation strategies, strengthened regulatory frameworks, and targeted preventive interventions to mitigate psychosocial risks in digitalized work environments. Given the heterogeneity of the available evidence, findings should be interpreted as exploratory.

Rabasa-Martín et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Artificial intelligence; digitalization; mental health; occupational health; psychosocial risk; technostress; workplace well-being.

Evidence Level: 1A

Link: <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1857108/full>

Industrial robots and worker health in China: Evidence on sectoral heterogeneity and institutional moderation

Against the backdrop of a rising organic composition of capital driven by industrial automation, this paper examines how industrial robot adoption is associated with worker health in China and how these effects vary across groups, with particular attention to the role of labor-market institutions. Using data from the China Family Panel Studies matched with regional measures of industrial robot penetration, the analysis considers three health-related outcomes: subjective health change, objective health, and mental health. We further test the mechanisms underlying the direct health effects in manufacturing and explore the channels consistent with the cross-sector spillover patterns observed in non-manufacturing by focusing on workers' labor-market position and on the substitutability and complementarity of labor across sectors. The results indicate that, in terms of direct effects, robot adoption is associated with significant declines in all three health measures among workers in the manufacturing sector. For workers in non-manufacturing sectors, the estimates provide suggestive evidence of cross-sector spillovers, with effects differing across health dimensions. Moreover, the health consequences of robot adoption exhibit substantial heterogeneity across worker groups, suggesting uneven health effects among workers. Overall, the findings suggest that, as capital deepening reshapes labor processes, strengthening health-risk protection and improving access to medical insurance may help mitigate adverse health consequences, especially for more vulnerable workers.

Yuan et al. 2026.

Frontiers in Public Health, vol. 14.

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Keywords: Industrial robots; sectoral heterogeneity; the hukou system; uneven health consequences; workers' health.

Evidence Level: 4B

Link: <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2026.1846138/full>

Analyzing the effect of new technology and knowledge adoption on workers with visual impairment through a serial mediation model

Adopting new technology and knowledge (ANTK) has become a powerful force for enhancing productivity. This study examines the impact of ANTK on work engagement among visually impaired workers, with a focus on the mediating roles of person-job fit and positive identity as a visually impaired individual. Grounded in the Job Demands-Resources (JD-R) model, the study explores how ANTK serves as a critical job resource, mitigating the challenges associated with visual impairments and fostering higher levels of work engagement. Based on data from 204 visually impaired workers, the findings demonstrate that ANTK directly enhances work engagement. Moreover, person-job fit and positive identity sequentially mediate the relationship between ANTK and engagement. The findings provide theoretical contributions to both the JD-R model and the literature on disability and employment by highlighting the psychological mechanisms that link technology adoption to work outcomes. Practically, the study provides valuable insights for organizations seeking to leverage inclusive technologies to enhance accessibility, support identity development, and foster a more equitable and engaging workplace for workers with visual impairments.

Bai et al. 2026.

Scientific Reports, vol. 16, no. 1.

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Keywords: Adopting new technology and knowledge (ANTK); JD-R model; person-job fit; positive identity; work engagement; workers with visual impairments.

Evidence Level: 5B

Link: <https://www.nature.com/articles/s41598-026-40949-x>

Unveiling and mitigating the impacts of Industry 4.0 technologies on workers' health and safety: A Delphi study

Introduction: The technological transformations brought by Industry 4.0 (I4.0) have driven profound changes in production systems and organizational environments, reshaping working conditions and directly affecting workers' health and safety. Therefore, it is necessary to understand these impacts to face the

emerging challenges they pose. This study aimed to identify the most significant impacts of I4.0 on workers and to propose guidelines to mitigate the related health and safety challenges. **Method:** A three-round Delphi study was conducted with academic experts to reach consensus on the most critical impacts through iterative quantitative and qualitative feedback. **Results:** The results revealed 42 significant impacts, emphasizing increased cognitive requirements, growing psychosocial concerns, and repercussions on mental aspects, while traditional physical risk factors were not considered relevant. Based on these findings, a set of suggested recommendations was formulated to assist companies, organizations, and governments in developing strategies to better manage these impacts. **Conclusions:** These proposed guidelines seek to promote safer and more adaptive work environments aligned with the new demands arising from the advancement of digital transformation and sociotechnical systems. Practical applications: The study provides insights into the human and organizational challenges imposed by Industry 4.0, identifying priority areas for attention and offering directions to support safety and health management practices.

Bispo et al. 2026.

Journal of Safety Research, vol. 97, no. 628-645.

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Keywords: Digital transformation; human factors and ergonomics; operator 4.0; preventive strategies; psychosocial and cognitive challenges.

Evidence Level: 6A

Link: <https://www.sciencedirect.com/science/article/pii/S0022437526000721?via%3Dihub>