

ABOUT RESEARCH ALERT

Research Alert is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. Research Alerts should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in Research Alerts to individuals outside of the organization, as this violates copyright legislation.

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

***Macpherson RA, Amick BC, Collie A, Koehoorn M, Smith PM, and McLeod CB. Do regional labor market conditions matter for temporary work disability duration? A multilevel analysis of workers' compensation claims in five Canadian provinces. *American Journal of Industrial Medicine*. 2023; [epub ahead of print].**

<https://doi.org/10.1002/ajim.23489> [open access]

Abstract: BACKGROUND: Research has shown how regionally varying labor market conditions are associated with differences in work disability duration. However, the majority of these studies have not used multilevel models to appropriately account for the hierarchical clustering of individuals nested within contextual units (e.g., regions). Studies that have used multilevel models have focused on privately insured workers or on disability not specifically caused by work-related injury or illness. METHODS: Using claims data from five Canadian provincial workers' compensation systems, linear random-intercept models were used to estimate how much variance in temporary work disability duration ('work disability duration' for brevity) for work-related injuries and musculoskeletal disorders was due to differences between economic regions, what economic region-level labor market characteristics were associated with work disability duration, and what characteristics best explained economic region differences in work disability duration. RESULTS: Economic region characteristics, such as the unemployment rate and proportion of goods-producing employment, were independently associated with individual-level work disability duration. However, economic region variation only accounted for 1.5%-2% of total variation in work disability duration. The majority (71%) of economic region-level variation was explained by the provincial jurisdiction

where the worker lived and was injured. Regional variation tended to be greater for female workers than males. CONCLUSIONS: The findings suggest that while regional labor market conditions matter for work disability duration, system-level differences in workers' compensation and health care are more important factors influencing work disability duration. Furthermore, while this study includes both temporary and permanent disability claims, the work disability duration measure only captures temporary disability

Ahmed T, Hoque ASM, Karmaker CL, and Ahmed S. Integrated approach for occupational health and safety (OHS) risk Assessment: An Empirical (Case) study in Small enterprises. Safety Science. 2023; 164:106143.

<https://doi.org/10.1016/j.ssci.2023.106143>

Alves L, Abreo L, Petkari E, and Pinto da Costa M. Psychosocial risk and protective factors associated with burnout in police officers: a systematic review. Journal of Affective Disorders. 2023; 332:283-298.

<https://doi.org/10.1016/j.jad.2023.03.081> [open access]

Abstract: BACKGROUND: The specific factors that may influence burnout levels in police officers are not yet clear. Our aim was to systematically identify the psychosocial risk and protective factors associated with burnout among police officers. METHODS: This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). A protocol was registered in PROSPERO. A search strategy was applied to Medline via OvidSP, PsycInfo, Scopus and Web of Science. The quality assessment entailed the use of the CASP checklist for cohort studies. The data was reported through a narrative synthesis. RESULTS: After removing studies based on the selection criteria, 41 studies were included in this review. The findings were synthesized under the following subheadings: socio-demographic factors; organisational factors; operational factors; personality variables and coping strategies. Organisational and operational factors were found to be the most predominant risk factors for burnout. Personality variables and coping strategies appeared as both risk and protective factors. Socio-demographic factors were weak in explaining burnout. LIMITATIONS: Most studies are from high-income countries. Not all used the same burnout measurement tool. All relied on self-reported data. Since 98% had a cross-sectional design, causal inferences could not be made. CONCLUSIONS: Burnout, despite being strictly defined as an occupational phenomenon, is related to factors outside of this context. Future research should focus on examining the reported associations by using more robust designs. More attention must be paid to police officers' mental health by investing in developing strategies to mitigate adverse factors and maximise the effects of protective factors

Barker TH, Pollock D, Stone JC, Klugar M, Scott AM, Stern C, et al. How should we handle predatory journals in evidence synthesis? A descriptive survey-based cross-sectional study of evidence synthesis experts. *Research Synthesis Methods*. 2023; 14(3):370-381.

<https://doi.org/10.1002/jrsm.1613>

Abstract: Synthesizers of evidence are increasingly likely to encounter studies published in predatory journals during the evidence synthesis process. The evidence synthesis discipline is uniquely positioned to encounter novel concerns associated with predatory journals. The objective of this research was to explore the attitudes, opinions, and experiences of experts in the synthesis of evidence regarding predatory journals. Employing a descriptive survey-based cross-sectional study design, these experts were asked a series of questions regarding predatory journals to explore these attitudes, opinions, and experiences. Two hundred and sixty four evidence synthesis experts responded to this survey. Most respondents agreed with the definition of a predatory journal (86%), however several (19%) responded that this definition was difficult to apply practically. Many respondents believed that studies published in predatory journals are still eligible for inclusion into an evidence synthesis project. However, this was only after the study had been determined to be 'high-quality' (39%) or if the results were validated (13%). While many respondents could identify common characteristics of these journals, there was still hesitancy regarding the appropriate methods to follow when considering including these studies into an evidence synthesis project

Boonhat H, Pratama AP, Lin JT, and Lin RT. Duration-response association between occupational exposure and pancreatic cancer risk: meta-analysis. *Occupational Medicine*. 2023; 73(4):211-218.

<https://doi.org/10.1093/occmed/kqad050> [open access]

Abstract: BACKGROUND: Evidence is lacking on the occupational exposure time window to chemical agents related to pancreatic cancer risk. AIMS: This study performed meta-regression and meta-analysis to examine the dose-response association between occupational exposure duration to chemical agents and pancreatic cancer risk. METHODS: We searched and reviewed studies on exposure duration and pancreatic cancer in five databases (Cochrane Library, EMBASE, PubMed, ScienceDirect and Web of Science) from inception to 16 May 2022. Exposure refers to the years a worker was exposed to any chemical agent, and outcome variables were pancreatic cancer incidence and mortality. RESULTS: We identified 31 studies, including 288 389 participants. In the meta-regression, the positive dose-response association indicated pancreatic cancer risk increased slightly with every additional year of exposure duration (slope = 1.01; 95% confidence interval [CI] 1.00-1.02). Pancreatic cancer risk increased with an exposure duration of 1-10 (relative risk [RR] = 1.04; 95% CI 1.02-1.06), 11-20 (RR = 1.11; 95% CI 1.05-1.16), and 21-30 years (RR = 1.39; 95% CI 1.12-1.73). CONCLUSIONS: Pancreatic cancer risk increased as occupational exposure duration increased, with an exposure time window ranging from 1 to 30 years

Bosmans K. Precarious employment, precarious life? A qualitative study exploring the perspective of temporary agency workers and their households. *Work*. 2023; 75(1):113-127.

<https://doi.org/10.3233/WOR-220095>

Abstract: BACKGROUND: Previous research demonstrated the negative consequences of precarious employment for the health and well-being of employees. However, the broader social consequences of precarious employment are under-examined. OBJECTIVE: This study explores the broader impact of precarious employment on the life course, family and social life of households. A multi-actor perspective is adopted, considering the perspectives of different household members. METHODS: For this aim, in-depth (household) interviews among temporary agency workers in Belgium are conducted. RESULTS: The results reveal that precarious employment influences the life course and family and social life in three ways: (1) by hindering or facilitating life course events and transitions of household members, (2) by influencing the daily life and household planning, and (3) by influencing the mood of household members. CONCLUSION: The consequences of precarious employment reach further than the work environment; they impact the life course, and social and family life of workers. Moreover, precarious employment does not only influence the workers themselves, but also their household members, which is often forgotten in studies. Therefore, policy makers should consider the far-reaching consequences of precarious employment when developing (flexible) labour market policies

De Bruyne J, Joundi J, Morton J, Zheleva A, Van Kets N, Van Wallendael G, et al. I spy with my AI: the effects of AI-based visual cueing on human operators' performance and cognitive load in CCTV control rooms. *International Journal of Industrial Ergonomics*. 2023; 95:103444.

<https://doi.org/10.1016/j.ergon.2023.103444>

Chew G, Menounos S, Sheldrick K, Das A, and Diwan AD. Age-based exclusion is common and multifactorial in spinal RCTs: a systematic review and quantitative analysis. *European Spine Journal*. 2023; 32(5):1537-1545.

<https://doi.org/10.1007/s00586-023-07618-3>

Abstract: Most diseases of the spine disproportionately impact older persons, with the modal (i.e., commonest) patient a female in their 8th decade of life. We examined the corpus of spinal RCTs to determine how many included "average" spine patients. We searched PubMed for randomized clinical trials published in the top 7 spine journals over a period of 5 years from 2016 to 2020 and extracted nominal upper age cut-offs and the distribution of ages actually recruited. We identified 186 trials of 26,238 patients. We found that only 4.8% of trials could be applied to an "average" 75-year-old patient. This age-based exclusion was not dependent on funding source. Age-based exclusion was exacerbated by explicit upper age cut-offs, however, the age-based exclusion went beyond explicit age cut-offs. Only few trials were applicable to older patients even amongst trials with no age cut-off specified. Age-

based exclusion from clinical trials starts at late middle age. The mismatch between spinal patient's age seen in clinical practice and spinal patient's age in trials was so severe that over the 5 years (2016-2020) almost no RCT evidence was produced applicable to the "average" aged-patient across the body of literature available. In conclusion, age-based exclusion is ubiquitous, multifactorial, and happens on a supratlial level. Eliminating age-based exclusion involves more than an arbitrary lifting of explicitly stated upper age cut-offs. Instead, recommendations include increasing input from geriatricians and ethics committees, establishing updated or new models of cares, and creating new protocols to facilitate further research.

Davies R and Felstead A. Is job quality better or worse? Insights from quiz data collected before and after the pandemic. *Industrial Relations Journal*. 2023; 54(3):203-222.

<https://doi.org/10.1111/irj.12401> [open access]

Abstract: This article is based on data collected from almost 100,000 individuals who completed the www.howgoodismyjob.com quiz either side of the pandemic. The results show that overall non-pecuniary job quality has improved, differences between occupations have shrunk and the growth of remote working is a factor behind these trends.

Hult M and Valimaki T. Care workers' positive health during the COVID-19 pandemic: psychometric properties of the Finnish version of the Salutogenic Health Indicator Scale and an 18-month follow-up. *Work*. 2023; 74(4):1289-1298.

<https://doi.org/10.3233/WOR-220383>

Abstract: BACKGROUND: There is a need to shift from biomedical and pathogenic approaches to salutogenic approach. OBJECTIVE: To validate the Finnish version of the SHIS by testing its psychometric properties in care workers and to assess the SHIS score over time. METHODS: We first conducted a survey in 2020 (T1) and tested the psychometric properties of SHIS among care workers. We repeated the survey in spring 2022 (T2) among the same subjects. We analyzed the changes in SHIS, self-rated health (SRH), work ability (WAS), sickness absence and occupational calling between T1 and T2. Thereafter, we compared changes between health care sectors' and the other sectors' care workers. RESULTS: The results showed an increase in positive health measured with the SHIS and the occupational calling, a decrease in the SRH, and an increase in the number of sickness-related absences among all the care workers between T1 and T2. There was no change in their WAS. The health care workers had a lower SHIS than the other sectors' care workers in both T1 and T2, but the increase in their SHIS was parallel to that of the other workers. CONCLUSION: SHIS is a useful and reliable measure of positive health and can be used in studies when determining subjective health instead of, or in addition to, diagnoses. It was able to detect the health changes caused by the COVID-19 pandemic. SHIS is capable of capturing the underlying salutogenic approach of health promotive resources

Johansson E, Svartengren M, Danielsson K, and Hellman T. How to strengthen the RTW process and collaboration between patients with chronic pain and their employers in interdisciplinary pain rehabilitation programs? Patients' experiences of the Demand and Ability Protocol. *Disability and Rehabilitation*. 2023; 45(12):2013-2020.

<https://doi.org/10.1080/09638288.2022.2083246>

Abstract: PURPOSE: To explore how patients who participate in an interdisciplinary pain rehabilitation program (IPRP) experience a three-party meeting based on the Demand and Ability Protocol (DAP) to assist in return to work (RTW). The DAP is a employee and his/her immediate manager under the guidance of medical staff with knowledge of the patient's work requirements and his/her current functional ability. MATERIALS AND METHODS: Data included 18 semi structured individual interviews with persons having chronic pain, who participated in a DAP-dialogue during their IPRP. Thematic analysis was used to analyze the data. RESULTS: Four themes were identified: A structured dialogue facilitated new insights; the dialogue enabled employer participation; the facilitator enabled experiences of feeling safe during the dialogue; and the dialogue created a link between rehabilitation and work. CONCLUSIONS: The DAP dialogue was experienced as a supportive measure for RTW where the employer naturally participated in IPRP. The structure of the dialogue supported concrete planning for workplace adaptations. Furthermore, the dialogue enabled a connection between rehabilitation and the activity of work in everyday life. The results reinforce the importance of including efforts close to the workplace in IPRP in order to facilitate rehabilitation outcomes related to RTW. IMPLICATIONS FOR REHABILITATION A structured collaboration and dialogue between the employee, employer, and rehabilitation supports the RTW process. Collaboration between stakeholders is important and should be intertwined in IPRP to jointly facilitate the employee's RTW. Clarifying the work demands provides motivation for the RTW process. Healthcare professionals should collaborate with the workplace to promote employer participation

Mahajan D, Gupta MK, Mantri N, Joshi NK, Gnanasekar S, Goel AD, et al. Musculoskeletal disorders among doctors and nursing officers : an occupational hazard of overstrained healthcare delivery system in western Rajasthan, India. *BMC Musculoskeletal Disorders*. 2023; 24(1):349.

<https://doi.org/10.1186/s12891-023-06457-z> [open access]

Abstract: Background: The present study was conducted to estimate the prevalence and distribution of MSDs in different anatomical regions among Doctors and NO and to determine their ergonomic risk factors and predictors. Methods: This cross-sectional study was conducted in an apex institution in Western India. The socio-demographic information, medical and occupational history, and other personal and work-related attributes were captured using a semi-structured questionnaire, which was developed and finalized by piloting on 32 participants (who were not part of the study). Nordic Musculoskeletal and International Physical Activity Questionnaires were used to assess MSDs and Physical activity. Data were analyzed using SPSS v.23. Prevalence of Musculoskeletal Symptoms (M.S.),

Multisite Musculoskeletal Symptoms (MMS), and Widespread Musculoskeletal Symptoms (WMS) were calculated. A comparison was made to estimate the burden and distribution of MSD among Doctors and Nursing officers. Logistic regression was applied to identify the predictors of MSDs and pinpoint the risk factors associated with MSDs. Results: A total of 310 participants, of which 38.7% were doctors, and 61.3% were Nursing Officers (NOs) were included in the study. The mean age of the respondents was 31.63 ± 4.9 years. Almost 73% (95%CI: 67.9-78.1) of participants had MSD in the last 12 months, with approximately 41.6% (95%CI: 36.1-47.3) suffering from MSDs in the previous seven days of the survey. The lower back (49.7%) and the neck (36.5%) were the most affected sites. Working in the same position for a long time (43.5%) and not taking adequate breaks (31.3%) were the highest self-reported risk factors. Females had significantly higher odds of having pain in the upper back [aOR:2.49(1.27-4.85)], neck [aOR:2.15(1.22-3.77)], shoulder [aOR:2.8 (1.54-5.11)], hips [aOR:9.46 (3.95-22.68)] and knee [aOR:3.8(1.99-7.26)]. Conclusions: Females, who are NOs, work for > 48 h per week, and fall in the obese category were significantly at more risk of developing MSDs. Working in an awkward position, treating an excessive number of patients in a day, working in the same position for a long period, performing repeated tasks, and not having enough rest breaks were significant risk factors for MSDs.

Martin V, Flanagan TD, Vogus TJ, and Chenevert D. Sustainable employment depends on quality relationships between supervisors and their employees on the autism spectrum. *Disability and Rehabilitation*. 2023; 45(11):1784-1795.

<https://doi.org/10.1080/09638288.2022.2074550>

Abstract: PURPOSE: Employment outcomes for individuals on the autism spectrum may be contingent upon employers' knowledge of autism and provision of appropriate workplace supports. We aimed to understand the organizational factors that influenced the organizational socialization of autistic employees. MATERIALS AND METHODS: We wrote nine case histories based on interviews from managers, autistic employees, and job coaches. Intra-case analysis, then cross-case analysis, provided an understanding of organizational factors that lead to sustained employment of autistic employees. RESULTS: The quality of the relationship between managers and autistic employees was consistently seen as the key facilitator of organizational socialization and positive employment outcomes of autistic employees. These relationships, however, relied on the skilled facilitation of the job coach during each stage of the employment cycle (hiring, on-boarding, training, performance management), as they had an important role in building a mutual understanding between supervisors and employees. As such, our study draws upon and contributes to leader-member exchange theory. CONCLUSIONS: Consistent with prior research, our study shows the importance of high-quality relationships between supervisors and supervisees for positive employment outcomes of autistic employees in organization but adds skilled communication facilitation as a novel antecedent to leader-member exchange, as a potentially key factor for autistic employees. Implications for rehabilitation. The relationship between the a manager and their employee is an important factor in effective organizational socialization and

workplace outcomes for autistic employees. Job coaches can play a crucial role in building mutual understanding and high-quality relationships between managers and employees. Job coaches can support the inclusion of autistic employees by illustrating the multi-faceted socioemotional performance benefits over the longer term

Nielsen HB, Kirchheiner-Rasmussen J, Dyreborg J, Larsen AD, Madsen IEH, Pedersen J, et al. Trajectories of marginal part-time work and risk of depression. Does job or income insecurity mediate the relation? *Scandinavian Journal of Work, Environment & Health*. 2023; 49(4):271-282.

<https://doi.org/10.5271/sjweh.4091> [open access]

Abstract: OBJECTIVES: Working few hours a week, known as marginal part-time work, may increase both job and income insecurity, which have been linked to the risk of depression. This study examines the association between marginal part-time work and depression and the mediating role of job and income insecurity. METHODS: We included 30 523 respondents of the Danish Labor Force Survey (DLFS) between 2010 and 2017 and linked them to register-based information on weekly working hours, which was used to identify full-time workers and model group-based trajectories of marginal part-time. These data were linked with survey information on job and income insecurity, and register-based information on hospital-diagnosed depression or redeemed anti-depressant drugs in the following two years. We estimated hazard ratios (HR) by Cox proportional hazards models and conducted mediation analyses to estimate the natural direct and indirect effects using job and income insecurity as mediators. RESULTS: We identified three distinct trajectories of marginal part-time work: constant marginal part-time work, mobile towards marginal part-time work, and fluctuating in and out of marginal part-time work. Compared with full-time workers, the constant [HR 2.42, 95% confidence interval (CI) 1.83-3.20], mobile (HR 2.84, 95% CI 2.16-3.75), and fluctuating (HR 3.51, 95% CI 2.07-5.97) trajectories all had higher risks of depression. There was no evidence of mediation by either job (HR 1.02, 95% CI 0.92-1.12) or income (HR 0.98, 95% CI 0.89-1.08) insecurity. CONCLUSIONS: We found a higher risk of depression following marginal part-time work. The higher risk was not mediated by job or income insecurity

Rezagholi M. The economic cost of fatal workplace accidents in Sweden: a methodology for long-term decision analysis. *Work*. 2023; 75(1):75-84.

<https://doi.org/10.3233/WOR-211120> [open access]

Abstract: BACKGROUND: The few studies attempting to estimate costs of fatal accidents at workplaces suffer from poor or obscure applied methodologies. As the costs are often limited for the exposed company/industry in the short run, economic decisions about investments to improve the safety and security of workplaces are moreover not made at the societal level nor within an appropriate time frame. In a social economic decision, the total potential productivity lost over time due to a fatal accident is considered regardless of who pays what compensation to the families involved. OBJECTIVE: This study introduces a methodology appropriate for making long-term economic decisions at the societal level to prevent

accidents in Swedish workplaces. **METHODS:** The introduced methodology, which is based on the human capital approach, is used to assess potential productivity losses associated with the accidents. **RESULTS:** The empirical findings show that, over the period 2008-2019, Swedish society could have gained more than 8.5 billion Swedish crowns by preventing accidents at Swedish workplaces. **CONCLUSION:** The objective achieved as the economic cost of fatal workplace accidents assessed from a long-term societal perspective. Effective preventive measures in the workplace make thus an incredible contribution to society in the form of increased national income, sustainable welfare and economic development

Sanchez J, Frain MP, Shirley G, Rohack D, and Pan D. Persons with disabilities in self-employment served by the federal/state vocational rehabilitation system: differences between 2011 - 2013 and 2017 - 2019. Rehabilitation Counseling Bulletin. 2022; 66(3):203-214.

<https://doi.org/10.1177/00343552221102396> [open access]

Abstract: Persons with disabilities (PWDs) are disproportionately unemployed, underpaid, and underemployed despite their desire and capacity to work. The U.S. federal/state vocational rehabilitation (VR) program, under the supervision of the Rehabilitation Services Administration (RSA), is charged with providing services to assist eligible PWDs (VR consumers) in achieving employment. Despite research showing that VR consumers closed to self-employment (vs. non-self-employment closures) have better outcomes, self-employment is often considered as a last resort. Moreover, some evidence suggests self-employment (like non-self-employment) outcomes are associated with VR consumers' gender and racial/ethnic identity. The objective of this study was to determine trends of case closures in self-employment among PWDs within the VR program from 2011–2013 to 2017–2019 and to examine the effects of gender and race/ethnicity on self-employment outcomes. Variables of interest were obtained from RSA's Case Service Report (RSA-911) data set for 2011, 2012, 2013, 2017, 2018, and 2019. Data were recoded and analyzed. The number of closures in self-employment declined significantly. Weekly earnings in self-employment increased. Time from application to closure in self-employment decreased. Differences in VR self-employment outcomes by race/ethnicity and gender were noted. Efforts should be made to increase competency in self-employment of VR counselors and promote self-employment within the VR program.

Stengard J, Leineweber C, and Wang HX. Prolonging working life among blue-collar workers: the buffering effect of psychosocial job resources on the association between physically demanding and hazardous work and retirement timing. SSM - Population Health. 2023; 22:101372.

<https://doi.org/10.1016/j.ssmph.2023.101372> [open access]

Abstract: The need to delay retirement timing has been acknowledged in Western countries due to demographic ageing. The aim of the present study was to examine the buffering effects of job resources (decision authority, social support, work-time control, and rewards)

on the association of exposures to physically demanding work tasks and physically hazardous work environment with non-disability retirement timing. Results from discrete-time event history analyses, in a sample of blue-collar workers ($n = 1741$; 2792 observations) from the nationwide longitudinal Swedish Longitudinal Occupational Survey of Health (SLOSH), supported that decision authority and social support may buffer the negative impact of heavy physical demands on working longer (continuing working vs retiring). Stratified analyses by gender showed that the buffering effect of decision authority remained statistically significant for men, while that of social support remained statistically significant for women. Moreover, an age effect was displayed, such that a buffering effect of social support on the association of heavy physical demands and high physical hazards with working longer were found among older men (≥ 64 years), but not younger (59-63 years). The findings suggest that heavy physical demands should be reduced, however, when not feasible physical demands should be accompanied by social support at work for delaying retirement.

Stratton E, Player MJ, and Glozier N. Online mental health training program for male-dominated organisations: a pre-post pilot study assessing feasibility, usability, and preliminary effectiveness. *International Archives of Occupational & Environmental Health*. 2023; 96(5):641-649.

<https://doi.org/10.1007/s00420-023-01961-0> [open access]

Abstract: Purpose: The emergence of digital health interventions for mental ill-health in the workplace is expansive. Digital interventions delivered in male-dominated settings are less so. This pilot study aimed to assess the usability, feasibility, acceptability, and preliminary effects of an online intervention in a male-dominated organization. We focus on male-dominated as mental ill-health is frequently unrecognized and underdiagnosed among males. Methods: Unwind, a 7-week internet-based program with stress-management components, was tested in a pre-post pilot study. Unwind gets users to identify and understand their stress triggers and assists them to develop adaptive ways to manage these and their stress. Participants were Australian adults employed in a mining company. Follow-up assessment occurred 8 weeks after baseline. The primary outcome measure was change in stress symptoms, with secondary outcomes; change in depression, anxiety, insomnia, well-being, and alcohol use. User feedback and program data were analyzed to assess usability, engagement, and intervention adherence. Results: Eligible participants $n = 87$ showed significant reductions in stress ($g = 0.46$, $p < 0.001$), depression ($g = 0.47$, $p < 0.001$), anxiety ($g = 0.50$, $p < 0.001$), insomnia ($g = 0.44$, $p < 0.001$), and well-being ($g = 0.32$, $p = 0.004$) post-intervention. Significant improvements were observed in both well and unwell (mental ill-health) and male and female participants. There was no gender effect on outcomes. A dose-response was observed as the number of modules used was related positively to improvement in anxiety ($F_{1,86} = 5.735$, $p = 0.019$; $R^2 = 0.25$). Overall users rated Unwind as useful and engaging. Conclusion: This study presents evidence base that Unwind is a feasible and acceptable approach to reducing employees' mental health-related symptoms in typically difficult-to-

reach male-dominated industries. Unwind is feasible for larger scale delivery within male-dominated industries.

Woods EH, Zhang Y, Roemer EC, Kent KB, Davis MF, and Goetzel RZ. Addressing psychosocial, organizational, and environmental stressors emerging from the COVID-19 pandemic and their effect on essential workers' mental health and well-being: a literature review. Journal of Occupational & Environmental Medicine. 2023; 65(5):419-427.

<https://doi.org/10.1097/JOM.0000000000002802> [open access]

Abstract: OBJECTIVE: This study aimed to identify stressors faced by essential workers amid the coronavirus disease pandemic and effective interventions mitigating these stressors. METHODS: We reviewed literature on psychosocial, organizational, and environmental stressors faced by essential workers during the pandemic, the consequences of those stressors, and interventions to improve worker health and well-being. FINDINGS: Stressors included elevated risk of coronavirus disease 2019 exposure, fear of spreading the virus, lack of social and organizational supports, and financial insecurity. Negative outcomes included burnout, depression, and high turnover. Promising interventions included robust safety protocols, increased wages, childcare benefits, enhanced access to mental health services, and frequent leadership communications. CONCLUSION: Stress has taken a heavy toll on essential workers' physical and emotional health, productivity, and job satisfaction. To effectively protect Total Worker Health, employers should adopt evidence-based interventions promoting psychosocial, organizational, and environmental health and safety

Missed an issue? Catch up on previous Research Alerts available on the IWH website www.iwh.on.ca/journal-articles/research-alerts