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

***Biswas A, Mustard CA, and Landsman V. Trends in severity of work-related traumatic injury and musculoskeletal disorder, Ontario 2004-2017. *American Journal of Industrial Medicine*. 2024; [epub ahead of print].**

<https://doi.org/10.1002/ajim.23614> [open access]

Abstract: OBJECTIVES: Traumatic injury surveillance can be enhanced by describing injury severity trends. This study reports trends in work-related injury severity for males and females over the period 2004-2017 in Ontario, Canada. METHODS: A weighted measure of workers' compensation benefit expenditures was used to define injury severity, obtained from the linkage of workers' compensation claims to emergency department (ED) records where the main injury or illness was attributed to work. Denominator counts were obtained from Statistics Canada's Labor Force Survey. Trends in the annual incidence of injury, classified as low, moderate, or high severity, were examined using regression modeling, stratified by age and sex. RESULTS: Over a 14-year observation period, there were 1,636,866 ED records included in the analyses. Overall, 57.6% of occupational injury records were classified as low severity, 29.5% as moderate severity, and 12.8% as high severity conditions. There was an increase in the incidence of high severity injuries among females (annual percent change (APC): 1.52%; 95% CI: 0.77, 2.28), while the incidence of low and moderate severity injuries generally declined for males and females. Among females, injuries attributed to animate mechanical forces and assault increased as causes of low, moderate, and high severity injuries. The incidence of concussion increased for both males (APC: 10.51%; 95% CI: 8.18, 12.88) and females (APC: 16.37%; 95% CI: 13.37, 19.45). CONCLUSION: The incidence of severe work-related injuries increased among females in Ontario between 2004 and 2017. The methods applied in this surveillance study of traumatic injury severity are plausibly generalizable to applications in other jurisdictions

***Hofstetter C, Grosskleg S, Hamilton CB, Hoens AM, Shea B, Tugwell P, Beaton D. Patient research partner engagement in OMERACT: enhancing engagement through the implementation of patient engagement in research tools. *Seminars in Arthritis and Rheumatism*. 2024; 67:152447.**

<https://doi.org/10.1016/j.semarthrit.2024.152447>

Abstract: OBJECTIVES: This paper describes the evolution and impact of Patient Research Partners (PRPs) in shaping research within OMERACT and provides a framework to enhance their engagement. This session explored one component of a validated framework to evaluate meaningful patient engagement. It provides insights, identifies opportunities for improvement, and recommends using the Patient Engagement in Research (PEIR) Framework, PEIR Plan Guide (workbook), and PEIRS-22 (scale) to guide and measure PRPs' engagement. METHODS: Before the conference, the team held planning sessions and selected the Feel-Valued component of the PEIR Workbook for exploration. During OMERACT 2023, we discussed this topic using the PEIR Plan Guide in an interactive plenary session. RESULTS: The plenary session produced 72 items from 14 breakout tables addressing PEIR Framework themes. CONCLUSIONS: This paper highlights the role and evolution of PRPs in shaping research within OMERACT. It emphasizes enhancing and accurately measuring PRP engagement through the PEIR Framework, PEIR Plan Guide, and PEIRS-22. The insights and methodologies presented aim to fortify future PRP engagement, ensuring it aligns with OMERACT's principles of patient-centred research

***Somani R, Muntaner C, Velonis AJ, Smith P, and Hillan EM. Factors contributing to increased workplace violence against nurses during COVID-19 in the healthcare settings of a lower middle-income country: a qualitative study. *Asian Nursing Research*. 2024; [epub ahead of print].**

<https://doi.org/10.1016/j.anr.2024.04.008> [open access]

Abstract: PURPOSE: To provide the perceptions of nurses, nursing supervisors, and nursing administrators about factors contributing to increased workplace violence against nurses within the healthcare settings in Pakistan during the first wave of COVID-19 pandemic. METHODS: This study employed a Descriptive Qualitative design, with a purposive sampling technique. From September to December 2021, In-depth Interviews (IDIs) of 45 to 60 minutes, using a semi-structured interview guide, we collected data from a private and a public healthcare setting in Pakistan. Given the travel restrictions during COVID-19, these interviews were conducted online, using Zoom audio features. Bedside nurses, nursing supervisors, and nursing administrators with at least six months of work experience participated in this study. RESULTS: The qualitative data analysis steps suggested by Braun and Clarke (2013) were used for thematic analysis. The overarching theme emerging from the data was "Factors perceived by nurses that contributed to increased workplace violence in their work settings during the first wave of COVID-19, in a lower middle-income country" The sub-themes from the participants' narrations were (a) Highly stressed patients, attendants, and healthcare workers; (b) the financial burden on patients and their families; (c) lack of resources and shortage of staff; (d) restricted visiting policy and a weak security system; (e) lack of awareness about the seriousness of COVID-19; (f) misconceptions about COVID-19 vaccines and nurses' role in disseminating awareness. CONCLUSION: The current pandemic increased the intensity of WPV against nurses in healthcare settings in Pakistan. Despite any supposed reasons for WPV, exposure to violence should never be an acceptable part of nursing. The healthcare system in Pakistan needs to pay equal attention to funding, resource provision, and ensuring a safe working environment for healthcare workers

Bartos F, Maier M, Wagenmakers EJ, Nippold F, Doucouliagos H, Ioannidis JPA, et al. Footprint of publication selection bias on meta-analyses in medicine, environmental sciences, psychology, and economics. *Research Synthesis Methods*. 2024; 15(3):500-511.

<https://doi.org/10.1002/jrsm.1703>

Abstract: Publication selection bias undermines the systematic accumulation of evidence. To assess the extent of this problem, we survey over 68,000 meta-analyses containing over 700,000 effect size estimates from medicine (67,386/597,699), environmental sciences (199/12,707), psychology (605/23,563), and economics (327/91,421). Our results indicate that meta-analyses in economics are the most severely contaminated by publication selection bias, closely followed by meta-analyses in environmental sciences and psychology, whereas meta-analyses in medicine are contaminated the least. After adjusting for publication selection bias, the median probability of the presence of an effect decreased from 99.9% to 29.7% in economics, from 98.9% to 55.7% in psychology, from 99.8% to 70.7% in environmental sciences, and from 38.0% to 29.7% in medicine. The median absolute effect sizes (in terms of standardized mean differences) decreased from $d = 0.20$ to $d = 0.07$ in economics, from $d = 0.37$ to $d = 0.26$ in psychology, from $d = 0.62$ to $d = 0.43$ in environmental sciences, and from $d = 0.24$ to $d = 0.13$ in medicine

Christodoulou V, Paul E, Eric MJ, and Joseph E. Comparison of mindfulness training and acceptance and commitment therapy in a workplace setting: results from a randomized controlled trial. *European Journal of Work and Organizational Psychology*. 2024; 33(3):368-384.

<https://doi.org/10.1080/1359432X.2024.2314934>

Davey SL, Lee BJ, Robbins T, and Thake CD. Prevalence of occupational heat stress across the seasons and its management amongst healthcare professionals in the UK. *Applied Ergonomics*. 2024; 118:104281.

<https://doi.org/10.1016/j.apergo.2024.104281>

Abstract: Occupational heat stress (OHS) is an issue in healthcare facilities (HCFs) in the United Kingdom (UK). The aims of this study were to evaluate perceived levels of OHS during two seasons and its perceived consequences on healthcare professionals (HCPs) and to assess the efficacy of heat stress management (HSM) policies. An anonymous online survey was distributed to HCPs working in HCFs in the UK. The survey returned 1014 responses (87% women). Descriptive statistics and content analysis of survey data identified that OHS in HCFs is frequently experienced throughout the year and concerned most HCPs. Over 90% perceived OHS impairs their performance and 20% reported heat-related absenteeism. Awareness of HSM policies was poor and 73% deemed them not adequate. To help reduce the financial loss and impact on staff performance, health and well-being and patient safety, it is recommended that revisions and widespread dissemination of HSM policies are made

Fond G, Smith L, Tran B, Lucas G, Nguyen TT, Yon DK, et al. Unmasking the triad of burnout, absenteeism, and poor sleep among healthcare workers during the third wave of COVID-19 pandemics. Results from the national AMADEUS study. *Journal of Affective Disorders*. 2024; 355:247-253.

<https://doi.org/10.1016/j.jad.2024.03.157>

Abstract: Background: Burnout and absenteeism are prevalent among healthcare workers, reflecting prolonged work-related stress and dissatisfaction with their job. Identifying poor sleep as a contributing factor can assist in developing targeted interventions. This study explored the

relationship between burnout, absenteeism, and sleep among healthcare workers. **Methods:** A nationwide online cross-sectional study was conducted among healthcare professionals in France during the third wave of COVID-19, from May 2021 to June 2021. Recruitment strategies included outreach through social and professional networks and email invitations. Burnout was assessed using the Maslach Burnout Inventory, absenteeism through self-reported days absent in the preceding 12 months, and sleep quality using the Pittsburgh Sleep Quality Index. The association between burnout, absenteeism, and poor sleep was analyzed using multivariate logistic regression, accounting for individual and professional variables. The study also explored various sleep dimension abnormalities. **Results:** Of 10,087 healthcare workers, 55.2 % reported burnout, 20.5 % absenteeism, and 64.8 % poor sleep. Burnout and absenteeism were more frequent in individuals with poor sleep compared to those with good sleep (74.2 % vs. 25.8 % and 75.6 % vs. 24.4 %, respectively). The multivariate analyses confirmed the associations between burnout, absenteeism, and poor sleep (Adjusted Odds Ratio [aOR] = 2.15, 95 % CI [1.97-2.35], $p < 0.001$; and aOR = 1.49, 95 % CI [1.32-1.67], $p < 0.001$, respectively). **Interpretation:** The study highlighted the intricate relationship between burnout, absenteeism, and poor sleep among healthcare professionals, informing workforce management and policy decisions to foster a supportive work environment and enhance their well-being.

Frick S, van der Meij L, Smolders K, Demerouti E, and de Kort Y. The effect of time and day of the week on burnout-related experiences: an experience sampling study. *European Journal of Work and Organizational Psychology*. 2024; 33(3):276-293.

<https://doi.org/10.1080/1359432X.2023.2266874>

Halmi B, Holsgrove TP, Vine SJ, Harris DJ, and Williams GKR. The after-effects of occupational whole-body vibration on human cognitive, visual, and motor function: a systematic review. *Applied Ergonomics*. 2024; 118:104264.

<https://doi.org/10.1016/j.apergo.2024.104264> [open access]

Abstract: Whole-body vibration (WBV) is prevalent in labour-related activities and can have adverse effects on the health and performance of the individuals exposed. However, evidence regarding the extent to which human functionality is affected following occupational WBV exposure has not been collated. The current systematic review sought to synthesize existing literature and assess the strength and direction of evidence regarding the acute after-effects of occupational WBV exposure on cognition, visual function, postural stability, and motor control. We conducted a comprehensive search of AMED, CINAHL, MEDLINE, PubMed, Psychology and Behavioural Sciences Collection, SPORTDiscus, APA PsychInfo, Cochrane Library, EMBASE, HMIC, Global Health, ProQuest Central, Scopus, Web of Science, and the US National Technical Information Service on April 26, 2023. Studies that quantified vibration exposure and measured acute changes in cognition, visual function, postural stability, and motor control from baseline to post-vibration were considered without date restriction. Out of the 2663 studies identified, 32 were eligible for inclusion. Based on the Risk of Bias in Non-Randomized Studies of Exposure (ROBINS-E) tool, the studies demonstrated low (66%), moderate (25%) and high risk of bias (9%). The findings indicate that after exposure to WBV, postural stability either deteriorates or remains unchanged. Inconsistent effects of WBV on cognition were reported, while visual function and motor control showed no pronounced changes following WBV. This might be attributed to assessment limitations such as learning effects in neuropsychological and motor tasks, and non-functional measures of vision employed. There was a lack of consistency in the

characterization of vibration exposure and the assessment of associated effects on functional performance. Current evidence is therefore insufficient to provide definitive guidance for updating occupational health and safety regulations regarding WBV. However, this review highlights the potential for WBV to jeopardize post-exposure human performance and, consequently, safety. The completion of the review was supported by a UKRI EPSRC training grant. The review has been registered on PROSPERO (ref CRD42023391075)

Jima Bedaso F and Jirjahn U. Immigrants and trade union membership: does integration into society and workplace play a moderating role? *British Journal of Industrial Relations*. 2024; 62(2):262-292. <https://doi.org/10.1111/bjir.12779> [open access]

Abstract: Abstract We hypothesize that incomplete integration into the workplace and society implies that immigrants are less likely to be union members than natives. Incomplete integration makes the usual mechanism for overcoming the collective action problem less effective. Our empirical analysis with data from the Socio-Economic Panel confirms a unionization gap for first-generation immigrants in Germany. Importantly, using the presence of a works council as an indicator of workplace integration and contacts with Germans as an indicator of integration into society, the analysis shows that the immigrant-native gap in union membership is heterogeneous. The gap is smaller for immigrants working in firms with a works council and having social contacts with Germans. Our analysis also confirms that the gap is decreasing in the years since arrival in Germany

Leong KBR, Ng QX, Gan WH, Ng WT, and Lim JW. Epidemiology of work-related injuries, musculoskeletal disorders and dermatitis among hospital food service workers in a tertiary hospital in Asia. *Journal of Occupational Medicine and Toxicology*. 2024; 19(1):18. <https://doi.org/10.1186/s12995-024-00413-w> [open access]

Abstract: Background: Despite the relative importance, the prevalence of workplace safety and health issues in hospital food service workers is not well studied. This study describes the epidemiology of work-related injuries and occupational diseases among hospital food service workers (FSWs) in a tertiary hospital in Singapore. Methods: Using a total population sampling approach, a cross-sectional self-administered questionnaire was distributed to all FSWs employed at a major tertiary hospital in Singapore. Results: The response rate was 98.4% (n = 125). The overall prevalence of workplace injuries and musculoskeletal symptoms was 35% (n = 43) and 53% (n = 65) respectively. The most common workplace injuries were cuts/lacerations (35.8%), muscle strain (25.4%) and burns (19.4%). The prevalence of workplace injuries among staff performing food preparation duties was higher at 56.3% as compared to 21.6% among staff with no food preparation duties (p < 0.01). The prevalence of workplace injuries among staff performing cooking duties was also higher at 47.5%, compared to 29.3% among staff with no cooking duties (p = 0.05). Staff performing food preparation duties had a higher prevalence of musculoskeletal symptoms at 66.7% as compared to 44.6% among staff with no food preparation duties (p = 0.02). Obese staff had a higher prevalence of musculoskeletal symptoms at 78.9%, compared to overweight staff at 53.8% and staff with normal weight at 43.1% (p = 0.03). Conclusion: FSWs with jobs involving cooking and preparation of food, and those with obesity, are at higher risk of sustaining workplace injuries or musculoskeletal symptoms. Targeted interventions should be implemented for injury prevention and to mitigate these risks.

Nielsen K and Yarker J. "It's a rollercoaster": the recovery and return to work experiences of workers with long COVID. *Work and Stress*. 2024; 38(2):202-230.

<https://doi.org/10.1080/02678373.2023.2286654>

Rohrbacher M, Hasselhorn HM, and Matilla-Santander N. Associations between precarious employment trajectories and mental health among older workers in Germany: vertical and horizontal inequalities. *Scandinavian Journal of Work, Environment & Health*. 2024; 50(4):290-299.

<https://doi.org/10.5271/sjweh.4160> [open access]

Abstract: OBJECTIVE: The aim of the study was to investigate the longitudinal association between multi-dimensionally measured precarious employment (PE) trajectories and mental health among older employees in Germany. METHODS: Current data from the German lidA study was used, including panel cases, who participated in all four survey waves (2011, 2014, 2018, 2022). The study comprised 1636 subjects, aged 46 and 52 years at baseline. Group-based trajectory modelling was used to model PE trajectories based on a score combining multiple items from the dimensions employment insecurity and income inadequacy. The association between PE trajectories (2011-2022) and mental health (2022) was tested using weighted logistic regression. RESULTS: We identified a PE trajectory with upward movement that best described 13.6% of the study sample. Representation in this group was socially unequally distributed with noticeably larger shares of female, lower-educated and lower-skilled workers in PE. Women following this trajectory had increased odds [odds ratio (OR) 1.68-1.82] of reporting poor mental health in 2022 compared to their counterparts in constant non-PE. This was not the case for men (OR 0.37-0.51). CONCLUSIONS: Our findings highlight horizontal and vertical inequalities with respect to exposure to and consequences of PE. Future labor market reforms should improve protection of women, who will likely be disadvantaged by accumulating employment-related mental health risks over the course of their lives

Saiki M, Matthews TA, Kawakami N, Robbins W, and Li J. Formulations of job strain and psychological distress: a four-year longitudinal study in Japan. *Safety and Health at Work*. 2024; 15(1):59-65.

<https://doi.org/10.1016/j.shaw.2024.01.001> [open access]

Abstract: Background: Different job strain formulations based on the Job Demand-Control model have been developed. This study evaluated longitudinal associations between job strain and psychological distress and whether associations were influenced by six formulations of job strain, including quadrant (original and simplified), subtraction, quotient, logarithm quotient, and quartile based on quotient, in randomly selected Japanese workers. Methods: Data were from waves I and II of the Survey of Midlife in Japan (MIDJA), with a 4-year follow-up period. The study sample consisted of 412 participants working at baseline and had complete data on variables of interest. Associations between job strain at baseline and psychological distress at follow-up were assessed via multivariable linear regression, and results were expressed as β coefficients and 95% confidence intervals including R² and Akaike information criterion (AIC) evaluation. Results: Crude models revealed that job strain formulations explained 6.93-10.30% of variance. The AIC ranged from 1475.87 to 1489.12. After accounting for sociodemographic and behavioral factors and psychological distress at baseline, fully-adjusted models indicated significant associations between all job strain formulations at baseline and psychological distress at follow-up: original quadrant (β : 1.16, 95% CI: 0.12, 2.21), simplified quadrant (β : 1.01, 95% CI: 0.18, 1.85), subtraction (β : 0.39, 95% CI: 0.09, 0.70), quotient (β : 0.37, 95% CI: 0.08,

0.67), logarithm quotient (β : 0.42, 95% CI: 0.12, 0.72), and quartile based on quotient (β : 1.22, 95% CI: 0.36, 2.08). Conclusion: Six job strain formulations showed robust predictive power regarding psychological distress over 4 years among Japanese workers.

Talapatra S, Parvez MS, Saha P, Kibria MG, and Hoque ASM. Musculoskeletal risk factors assessment based on exploratory factor analysis and fuzzy analytical hierarchy process. Theoretical Issues in Ergonomics Science. 2024; 25(2):154-186.

<https://doi.org/10.1080/1463922X.2022.2157065>

Tomonaga R, Watanabe Y, Jiang Y, Nakagawa T, and Yamato H. Comparison of physical activity and sedentary behavior between work in office and work from home: a self-controlled study. Journal of Occupational & Environmental Medicine. 2024; 66(4):344-348.

<https://doi.org/10.1097/JOM.0000000000003061>

Abstract: OBJECTIVE: To compare physical activity levels and sedentary behavior between individuals working in the office and those working from home, with the aim of elucidating the potential implications on employees' health. METHODS: We used triaxial accelerometers to assess the physical activity levels of 94 white-collar employees from a large-scale manufacturing company in Japan. They were instructed to wear the accelerometers during their working hours, which included the commuting time on work-in-office days. RESULTS: The mean energy expenditure on work in office was 426 kcal for individuals, while it was 228 kcal on work from home ($P < 0.01$). In addition, not including commuting, the time spent sedentary on work-from-home days was higher than that on work-in-office days by 20 minutes. CONCLUSIONS: Work from home decreases physical activity and increases sedentary time compared with work in office

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