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

***Hopwood P, MacEachen E, Bourgeault I, McAiney C, Yanar B, Davis A. On-Demand and Marketplace Platforms: Gig Care Work Conditions on Two Digital Labour Platform Care Models. *Critical Sociology*. 2024; [epub ahead of print]-
<https://doi.org/10.1177/0896920524127986> [open access]**

***Wells GA, Guillemin F, Merkel PA, de WM, Mackie S, March L, Tomasson G, King LK, Cembalo SM, Grosskleg S, Maxwell LJ, Monti S, Quinn KA, Shea BJ, Tugwell P, Beaton D. Advancing composite outcome measures: Insights on weighting components from OMERACT 2023. *Seminars in Arthritis and Rheumatism*. 2024; 69:152503
<https://doi.org/10.1016/j.semarthrit.2024.152503>**

Abstract: OBJECTIVE: The OMERACT Composite Working Group hosted a workshop at OMERACT 2023 to explore the complexities of weighting components in the development of composite outcomes. This study presents the methodology and findings of this workshop, exploring the complexities of weighting the individual components of composite outcome measures. METHODS: The workshop featured a multifaceted program, beginning with a plenary session that introduced the concept of composite outcomes, shared a patient's journey with rheumatic disease through a narrative, illustrated a composite outcome for Osteoarthritis Flares, and outlined the five domains selected for this composite outcome. A breakout exercise engaged participants in ranking and assigning weights to these domains, followed by group discussions to reach a consensus on weights. The workshop concluded with another plenary session that discussed various weighting approaches, including discrete choice and conjoint analysis from the ANCA-Associated Vasculitis working group, and outlined future directions for research on composite outcome methods. RESULTS: The breakout exercise revealed the challenges in assigning relative importance to different domains, highlighting

the variability in participant perspectives. Consensus discussions highlighted the diversity in approaches to weighting, the need for appropriate methods to determine domain weights and the impact of such weights on the interpretation of composite scores. **CONCLUSION:** The OMERACT 2023 workshop underscored the significance of a systematic approach to weighting components in composite outcome development. It highlighted the complexity of achieving consensus on the importance of domains and the role of incorporating the perspectives of patient research partners in this process. Future research directions include refining weighting methodologies, moving composites through the OMERACT Filter and enhancing understanding of their implications for clinical trials. The findings contribute to the ongoing discourse on optimizing composite outcome measures in rheumatology and beyond, advocating for a balanced integration of scientific rigour and patient-centeredness in their development

Bergdolt J, Hubert S, Schreiter J, Jenderny S, Beblo T, Driessen M, et al. Predictors of return to work in people with major depression: Results from a supported employment program in Germany. *Journal of Affective Disorders*. 2024; 364:1-8.

<https://doi.org/10.1016/j.jad.2024.07.084> [open access]

Abstract: **BACKGROUND:** Depression is a common mental disorder and is associated with work disability. For the implementation of evidence-based interventions, such as Individual Placement and Support (IPS) for people with depression in Germany, the aim of this study was to investigate client variables that predict return to work. **METHODS:** The sample consisted of 129 participants, initially treated in a psychiatric hospital due to major depression, who participated in IPS as part of a German clinical trial. Baseline demographic (age, sex, education, sickness absence days, employment status), psychiatric (symptom severity, comorbidity, general physical and mental health, disability), and neuropsychological (self-rated deficits, test performance) variables were included. Return to work within one year was predicted using separate and overall binary logistic regression analyses. **RESULTS:** A total of 70 participants (56 %) returned to work within the one-year follow-up period. >100 days of sick leave in the year prior to study entry (vs. <100 days) and higher self-rated cognitive deficits were significantly associated with reduced odds of return to work within one year of IPS. **LIMITATIONS:** The sample consisted of participants with a relatively good work history who were assigned to IPS by the treatment team, thus, the generalizability of the results is limited. **CONCLUSIONS:** People with depression who participate in IPS interventions might benefit from specifically targeting perceived cognitive deficits. Factors associated with prolonged sick leave due to depression and their role in return to work with IPS need further investigation

Bjork-Fant JM, Nordmyr J, and Forsman AK. Work-life balance and the psychosocial work environment in Finnish working life: The case of gender and family life stages. *Work*. 2024; [epub ahead of print]-

<https://doi.org/10.3233/WOR-230166> [open access]

Abstract: **BACKGROUND:** Work-life balance is associated with many positive effects at multiple levels and demands increased research attention. In the international literature on work-life balance, the term "gendered life-course" has been used to describe the differences between men and women in work biographies. However, whether this term applies to the Nordic work context remains underexplored. **OBJECTIVE:** This study examined Finnish men's and women's subjective experience of the association between work-life balance and the psychosocial work environment (work demands

and social support at work) across the life course, devoting special attention to family life stages encompassing the care of (young) children. **METHODS:** Data from the Quality of Work Life Survey 2018 were utilized to conduct binary logistic regression analyses (N=3790). Separate analyses were conducted for men and women. **RESULTS:** A significant association between family life stage and high work-life balance was found for women but not for men in the Finnish working life. Women in family life stages involving the care of young, dependent children reported the lowest odds of high work-life balance. For both men and women, a positive association between social support at work and high work-life balance was found, while a negative association was found between work demands and high work-life balance. **CONCLUSIONS:** These findings highlight the importance of psychosocial factors in both the work and family settings for work-life balance. Further, the findings call for an expanded focus on gender equality, also including issues in unpaid work in addition to issues in paid work

Couto Lopes AV, Teixeira CF, Vilela MBR, and de Lima MLLT. Time Trend of Occupational Noise-induced Hearing Loss in a Metallurgical Plant With a Hearing Conservation Program. Safety and Health at Work. 2024; 15(2):181-186.

<https://doi.org/10.1016/j.shaw.2024.04.001> [open access]

Abstract: **BACKGROUND:** This study aimed to analyze the trend of occupational noise-induced hearing loss (ONIHL) in Brazilian workers at a metallurgical plant with a hearing conservation program (HCP), which has been addressed in a previous study. **METHODS:** All 152 workers in this time series (2003-2018) participated in the HCP and used personal protective equipment. All annual audiometry records in the company's software were collected from the electronic database. The trend of ONIHL was analyzed with the joinpoint regression model. The hearing thresholds of ONIHL cases at the end of the series were compared with those found in a national reference study. **RESULTS:** The binaural mean hearing thresholds at 3, 4, and 6 kHz at the end of the series were higher for ages ≥ 50 years, exposures ≥ 85 dB (A), time since admission > 20 years, and maintenance workers. Significance was found only in the group divided by age. There was an increasing time trend of ONIHL, though with a low percentage variation for the period (AAPC=3.5%; $p=0.01$). Hearing thresholds in this study differed from the reference one. **CONCLUSION:** Despite the unmet expectation of a stationary trend in the study period, the time pace of ONIHL evolution did not follow what was expected for a population exposed to noise. These findings signal to the scientific community and public authorities that good ONIHL control is possible when HCP is well implemented

Crespo NC, Manzo D, Perez V, Walsh-Buhi ER, and Calzo JP. Qualitative Study of Multilevel Barriers and Facilitators Associated With Physical Activity and Diet Among Long-haul Truck Drivers. Safety and Health at Work. 2024; 15(3):263-270.

<https://doi.org/10.1016/j.shaw.2024.04.005> [open access]

Abstract: **BACKGROUND:** Long-haul truck drivers (LHTD) experience disproportionately greater chronic disease risk, which may be influenced by both occupational and lifestyle factors. This study aimed to explore the multilevel factors associated with LHTD's diet and physical activity (PA). **METHODS:** Thirty in-depth interviews were conducted with LHTD in the Southern California border region. Interview questions captured occupational and lifestyle factors relating to PA and diet at multiple levels and were analyzed using thematic analysis. **RESULTS:** Emergent themes relating to both diet and PA included time constraints, attitudes and perceived beliefs, and accessibility of environments to engage in PA and healthy eating. Themes specific to PA were weather conditions and flatbed job

duties. Themes specific to diet included access to refrigerators/microwaves and social interactions. CONCLUSION: Findings from this study can inform the development of tailored, multi-level interventions to encourage PA and healthy dietary behaviors among LHTD

Edwin K, Kongsvik T, and Albrechtsen E. An analysis of the relationship between project management and safety management in the Norwegian construction industry. *Safety Science*. 2024; 180(106654-

<https://doi.org/10.1016/j.ssci.2024.106654> [open access]

Jung E, Kook HY, Ryu HH, and Ju UC. Interaction Effect of Shift Work and Insomnia on Stroke Risk: A 19-Year Prospective Cohort Study in Korea. *Journal of Occupational & Environmental Medicine*. 2024; 66(9):689-693.

<https://doi.org/10.1097/JOM.0000000000003132>

Abstract: OBJECTIVES: Our study aimed to investigate the association between shift work and stroke and determine whether this association varies depending on the presence of insomnia. METHODS: Utilizing the KoGES prospective cohort data, our primary exposure variables were shift work and insomnia. The occurrence of stroke was the main outcome of interest. Hazards ratios and 95% confidence intervals were estimated using Cox regression analysis. An interaction analysis was conducted to assess the interaction of shift work and insomnia on stroke incidence. RESULTS: In the interaction analysis, shift work was significantly associated with stroke incidence only in groups with insomnia and a hazards ratio of 2.49 (95% confidence interval, 1.02-6.11). CONCLUSIONS: Our study demonstrated that shift work was associated with a higher risk of stroke among the population with insomnia

Manning C and Jorgensen M. Workers' compensation injuries in aviation manufacturing in the state of Kansas, 2014-2022. *Journal of Safety Research*. 2024; 90:73-85.

<https://doi.org/10.1016/j.jsr.2024.05.016>

Abstract: INTRODUCTION: Workers' compensation injuries entail burdensome financial and social costs. This study's objective was to describe cost and frequency of workplace injuries in aviation manufacturing in the state of Kansas using workers' compensation data. Manufacturing incurs more workers' compensation claims in Kansas than any other industry, and aviation contributes more of those claims than any other sub sector. METHOD: Workers' compensation insurance and reporting are required in the state of Kansas. Data were provided by the Kansas Department of Labor (KDOL) and included all closed workers' compensation claims entailing indemnity and medical costs filed in the state from 2014 to 2022. Cost of claim data were normalized to 2022 U.S. dollars and data were analyzed as a function of percentage and claim cost by body part, type of injury, cause of injury, specific musculoskeletal disorder type, and as a function of age and gender injury rates. RESULTS: Aviation claims entailed a median total cost of \$26,941 and represented 8% of all closed claims filed in the state from 2014 to 2022. The grand total direct cost over the nine-year period was \$75,404,147. Medical costs comprised 48.6% of all costs, indemnity 45.0%, and legal 6.4%. The most frequently injured body part was the hand/wrist (35.9%) followed by the shoulder (20.6%), and the most expensive body parts were related to the back. Overexertion (38.6%) was the most common cause followed by repetitive motion (22.8%). Work-related musculoskeletal disorders were the most common type accounting for 67.4% of all claims. Men and workers aged 55-64 incurred slightly higher claim rates than average. A sharp decrease in number of claims closed in 2021 coincided with

production shutdowns the previous year related to the Covid-19 pandemic and design issues. CONCLUSIONS: Aviation manufacturing is a key industry in Kansas and this study is the first known to describe costs and frequencies of workplace injuries in the sector using workers' compensation data. PRACTICAL APPLICATIONS: This guide to the most problematic and costly injuries in aviation manufacturing helps practitioners prioritize prevention strategies to most effectively reduce workplace injury and helps safety and health practitioners in prioritizing prevention efforts to reduce the most severe and costly aviation manufacturing injuries and illnesses. It also brings attention to some special considerations when working with safety data from 2020 to 2022 related to the Covid-19 pandemic

Merkus SL, Hoff R, Hasting RL, Udem K, Robroek SJW, Gran JM, et al. Gender and educational differences in work participation and working years lost in Norway. *Scandinavian Journal of Work, Environment & Health*. 2024; 50(6):426-436.

<https://doi.org/10.5271/sjweh.4166> [open access]

Abstract: OBJECTIVES: This study aimed to quantify the duration of work participation and reasons for working years lost, according to gender and educational attainment, among a Norwegian population. METHODS: Register data on labor market attachment between 2000-2015 were obtained from Statistics Norway. We included five cohorts: individuals turning 20 (N=323 333), 30 (N=386 006), 40 (N=388 962), 50 (N=358 745), and 60 years (N=284 425) between 1 January 2000 and 31 December 2005. Individuals were followed for ten years. Data completeness allowed calculation of the average time spent in work and years lost to health-related absences and non-employment states per cohort. Changes in state probabilities over time were also depicted. Mean differences between genders and educational levels, and corresponding 95% confidence intervals were based on 1000 bootstrap samples. RESULTS: Both genders spent most time in work; however, per cohort, women worked approximately one year less than men. As cohorts aged, main reasons for working years lost changed from education and economic inactivity to sickness absence and disability pensioning; this trend was stronger for women than men. Individuals with a low education spent fewer years in work and more years in sickness absence and disability pensioning than highly educated peers. This difference tended to be larger for women and older cohorts. CONCLUSIONS: Per cohort, women participated one year less in work than men and, depending on age, spent more time in education, economic inactivity, sickness absence, and disability pensioning. Stronger educational gradients were seen for work and health-related absences for older cohorts and women

Ning X, Yang Y, Liu C, and Han Y. Construction Workers' Unsafe Behavior Contagion under Government-Contractor Dual Influence. *Journal of Construction Engineering and Management*. 2024; 150(9):04024111

<https://doi.org/10.1061/JCEMD4.COENG-14282>

Remmen LN, Halekoh U, Christiansen DH, Herttua K, Klakk H, and Berg-Beckhoff G. Occupational and Health-Related Risk Factors for Incident and Recurrent Back Disorders in Danish Fishers-A Register-Based Study. *Journal of Occupational & Environmental Medicine*. 2024; 66(9):772-778.

<https://doi.org/10.1097/JOM.0000000000003157>

Abstract: BACKGROUND: Fishers are at risk of back disorders due to their physically demanding work. The aim was to investigate risk factors for back disorders in fishers in Denmark. METHODS: All male Danish registered fishers between 1994 and 2017 were included. ICD-10 codes classified back

disorders (M40-M54* and DM99.1-4*). A multistate model on a cause-specific cox regression model was conducted. RESULTS: Of 13,165 fishers included, 16% had a hospital contact with an incident back disorder, and 52% at least had 1 recurrent episode. Having worked in another occupation (HR 1.14; 95% CI: 1.02, 1.27) and another musculoskeletal disorder (HR 1.84; 95% CI: 1.69, 2.01) were significant risk factors for the incident back disorder. No risk factors were seen for recurrent episodes. CONCLUSIONS: Risk factors for incident and recurrent back disorders were different; thus, episode-specific initiatives are needed to reduce back disorders among fishers

Salari N, Fattah A, Hosseinian-Far A, Larti M, Sharifi S, and Mohammadi M. Prevalence of Workplace Microaggressions and Racial Discrimination: A Systematic Review and Meta-analysis. Safety and Health at Work. 2024; 15(3):245-254.

<https://doi.org/10.1016/j.shaw.2024.05.002> [open access]

Abstract: BACKGROUND: In recent years, the rise of workplace racial discrimination and microaggressions has decreased the efficiency and productivity of organizations and institutions, and realization of organizational goals globally. Accordingly, it was decided to conduct a systematic review and meta-analysis in the present study with the aim of investigating the prevalence of microaggression and racial discrimination in the workplace. METHODS: The PubMed, Scopus, Web of Science, ScienceDirect and Google Scholar databases were systematically searched for studies that had reported the effects of work stress among managers. The search did include a lower time limit and was conducted in June 2023. The heterogeneity of the studies was investigated using the I (2) index, and accordingly random effects method was adopted for meta-analysis. Data analysis was conducted with the Comprehensive Meta-Analysis (v.2) software. RESULTS: In the review of seven studies with a sample size of 2998 people, the overall prevalence of microaggression and racial discrimination in the workplace was found to be 73.6% and 18.8%, respectively. Publication bias within the selected studies was examined with the Egger's test, which indicated the absence of publication bias for the pooled prevalence of workplace microaggression ($p: 0.264$) and for the pooled prevalence of workplace racial discrimination ($p: 0.061$). CONCLUSION: The results obtained from this report indicate the high impact of micro-aggression and racial discrimination in the workplace. Considering the negative effects of such behaviours, the findings from this study will be helpful to managers and health policymakers

Tomic D, Hoy RF, Sin J, Jimenez MJ, Gwini SM, Barnes H, et al. Autoimmune diseases, autoantibody status and silicosis in a cohort of 1238 workers from the artificial stone benchtop industry. Occupational & Environmental Medicine. 2024; 81(8):388-394.

<https://doi.org/10.1136/oemed-2024-109526>

Abstract: OBJECTIVES: Autoimmune disorders are multifactorial but occupational exposures have long been implicated, including respirable crystalline silica (RCS). A modern epidemic of silicosis is emerging internationally, associated with dry processing of engineered stone with high (>90%) RCS content. We aimed to investigate the prevalence of clinical autoimmune disease and common autoantibodies in exposed workers. METHODS: Stone benchtop industry workers in Victoria, Australia were offered free screening for silicosis and related disorders. Symptoms or diagnoses of autoimmune disease were evaluated by questionnaire and blood tests taken for rheumatoid factor (RF), antinuclear antibodies (ANAs) and extractable nuclear antigens (ENAs). RESULTS: Among 1238 workers (93.3% male) screened from 2019 to 2021, 0.9% were confirmed with autoimmune disease.

Among those without clinical disease, 24.6% had detectable ANAs (93.5% male), 4.6% detectable ENAs and 2.6% were positive for RF. Silicosis was diagnosed in 253 workers (24.3% of those with diagnostic information available). Of those with ANA readings, 54 (6.6%) had ANA titre >1:320. The likelihood of positive autoantibodies increased with age; smoking; higher exposure to RCS and silicosis diagnosis. **CONCLUSION:** The proportion of workers with detectable ANAs or ENAs was considerably higher than the 5%-9% expected in the general population. Some of the antibodies detected (eg, Scl-70, CENPB) have high sensitivity and specificity for systemic sclerosis. Long-term follow-up will be needed to estimate incidence. Rheumatologists should explore occupational history in new cases of autoimmune disease. Screening for autoimmune disease is indicated in workers exposed to RCS as these individuals need specialised management and may be entitled to compensation

Wuytack F, Evanoff BA, Dale AM, Gilbert F, Fadel M, Leclerc A, et al. Comparison Between Musculoskeletal Pain and Gender-Specific, Non-gendered Job-Exposure Matrix and Self-reported Exposures in CONSTANCES. Journal of Occupational Rehabilitation. 2024; 34(3):594-605.

<https://doi.org/10.1007/s10926-023-10148-w>

Abstract: **PURPOSE:** Musculoskeletal disorders (MSDs) are common worldwide and gender differences exist in terms of prevalence and disability. MSDs are a leading cause of sick leave and physical work exposures. To assess the association between physical exposures assessed by the gender-specific CONSTANCES Job-Exposure Matrix (JEM) and musculoskeletal pain in six areas: neck pain, shoulder pain, elbow/arm pain, hand/wrist pain, low back pain, knee/leg pain; and to compare the results with those obtained using the non-gendered CONSTANCES JEM and with individual self-report exposures. **METHODS:** We included 48,736 male and 63,326 female workers from the CONSTANCES cohort (France). The association between 27 physical exposures and musculoskeletal self-reported pain in six body areas was assessed using logistic regression. We conducted the analysis with three types of exposures: (1) individual self-reported exposures; (2) gender-specific CONSTANCES JEM; (3) non-gendered CONSTANCES JEM, and adjusted for age and Body Mass Index (BMI). Analyses were stratified by gender. **RESULTS:** The associations to the gender-specific and non-gendered JEM were similar. The odds ratios using individual self-reported exposures were comparable to the JEM-based associations, with the exceptions of the exposures 'change tasks', 'rest eyes' and 'reach behind'. In some comparisons, there were differences in the direction and/or significance of effects between genders (regardless of whether the JEM used was gender-specific or not). **CONCLUSION:** The gender-specific and non-gendered JEMs gave similar results, hence, developing physical work exposures JEMs that are gender-specific may not be essential. However, when predicting musculoskeletal pain, it seems relevant to stratify the analysis by gender

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