# research alert

**February 24, 2023**

**Asanov I and Mavlikeeva M. Can group identity explain the gender gap in the recruitment process? Industrial Relations Journal. 2023; 54(1):95-113.**
https://doi.org/10.1111/irj.12392 **[open access]**

Abstract: Despite evidence that the gender gap in the labour market favours men, aggregate findings from correspondence studies show that women are more likely than men to be invited for a job interview. We hypothesize that the predominance of women among recruiters may explain this somewhat puzzling finding; recruiters may favour applicants of their own gender. We use the data from a large-scale correspondence study to test this hypothesis. As expected, we find that female applicants are more likely to receive callbacks for interview. We also see that in our sample the majority of contact persons responsible for the recruitment process are female. More importantly, we find that if recruiter and applicant are of the same gender, then the likelihood that the applicant will be invited for an interview increases. These findings reveal the gender favouritism at the selection stage in the labour market.

**Cezar-Vaz MR, Xavier DM, Bonow CA, Vaz JC, Cardoso LS, Sant'Anna CF, et al. Musculoskeletal pain in the neck and lower back regions among PHC workers: association between workload, mental disorders, and strategies to manage pain. Healthcare (Basel). 2023; 11(3):365.**
https://doi.org/10.3390/healthcare11030365 **[open access]**

Abstract: Scientific evidence indicates that workers in the health sector are commonly

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exposed to work-related musculoskeletal pain. OBJECTIVES: We aimed to identify the relationship between the presence and intensity of musculoskeletal pain in the neck and lumbar regions reported by Primary Health Care (PHC) workers with workloads and occupational risks, analyze musculoskeletal pain in the presence and absence of self-reported mental disorders based on a medical diagnosis, and identify workers' strategies to manage pain. METHOD: This cross-sectional study addressed 338 health professionals working in PHC outpatient services in the extreme South of Brazil. One questionnaire addressed sociodemographic questions concerning occupation, occupational risks, and mental disorders. The Nordic Musculoskeletal Questionnaire was used to assess self-reported musculoskeletal pain. The National Aeronautics and Space Administration Task Load Index (NASA-TLX) measured the workload. A descriptive and inferential analysis was performed using SPSS version 21.0. RESULTS: Most (55.3%) participants reported neck and (64.5%) lower back pain in the previous 12 months, and 22.5% and 30.5% reported intense neck and lower back pain, respectively, in the previous 12 months. The results showed different independent associations with increased musculoskeletal pain among health workers. Dentists presented the highest prevalence of neck pain, while female workers presented the highest prevalence of lower back pain. Furthermore, the perception of ergonomic risk and virtually all self-reported mental disorders (except panic syndrome for neck pain) were associated with pain in the neck and lower back regions and a higher frustration level (mental demand). Additionally, professionals with graduate degrees, nurses, and professionals working the longest in PHC services reported seeking complementary therapies more frequently, while physicians and those with self-reported mental disorders self-medicated more frequently

**Delorme J, Kerckhove N, Authier N, Pereira B, Bertin C, and Chenaf C. Systematic review and meta-analysis of the prevalence of chronic pain among patients with opioid use disorder and receiving opioid substitution therapy. Journal of Pain. 2023; 24(2):192-203.** https://doi.org/10.1016/j.jpain.2022.08.008

Abstract: To assess studies examining the prevalence of chronic pain (CP) in patients treated with Opioid Substitution Treatment (OST - buprenorphine or methadone) for Opioid Used Disorder (OUD), we conducted a systematic review and meta-analysis of the literature between the years 2000 and 2020. We searched EMBASE, PsycINFO, Cochrane, and MEDLINE databases and included studies assessing the prevalence of CP in OUD adults treated with OST. The studies were assessed for risk of bias and overall quality and the results were pooled using a random-effects model. Subgroup analyses and meta-regressions were used to identify possible factors associated with CP. Twenty-three studies reported data on the prevalence of CP in patients treated with OST were evaluated. The prevalence obtained was 45.3% (CI95% [38.7; 52.1]). Overall, 78.3% of the studies had a low risk of bias. Subgroup analysis estimates did not vary according to gender, OST, and CP duration. However, it appeared that the clinical settings was associated with a lower CP prevalence when assessed in primary care sites. Our study provided an estimate regarding the prevalence of CP among OST patients. These patients deserve specific attention from health professionals and health

authorities. Thus, the real challenge in OST patients is the implementation of a multidisciplinary approach to manage CP. PERSPECTIVE: Our meta-analysis provided an estimate of CP prevalence, reaching almost 50% of OUD patients with OST. Thus, the urgent challenge in OST patients is to pay systematic attention to chronic pain diagnosis, along with the implementation of a multidisciplinary patient-focused approach for an appropriate management of CP. REGISTRATION: PROSPERO (CRD42021284790).

**Fernando D and Kenny E. The identity impact of witnessing selective incivility: a study of minority ethnic professionals. Journal of Occupational and Organizational Psychology. 2023; 96(1):56-80.**
https://doi.org/10.1111/joop.12408

**Fragala MS, Tong CH, Hunter JL, Jelovic NA, Hayward JI, Carr S, et al. Facilitating mental health treatment through proactive screening and concierge services in the workplace. Journal of Occupational & Environmental Medicine. 2023; 65(2):160-166.**
https://doi.org/10.1097/JOM.0000000000002707     [open access]
Abstract: OBJECTIVE: The aim of this study is to determine if a proactive employer-sponsored mental health program closed gaps in detection and treatment of mental health conditions. METHODS: Of n = 56,442 eligible, n = 8170 (14.5%) participated in the optional screening. Participants with mental health risk were offered care concierge services including support, care planning, and connection to care. Difference in behavioral health care utilization, diagnoses, and prescriptions were evaluated postintervention through claims analysis. RESULTS: Compared with controls (n = 2433), those receiving concierge services (n = 369) were more likely to fill mental health prescriptions (adjusted hazards ratio [HR], 1.2; 1.0-1.5; P = 0.042), use professional mental health services (adjusted HR, 1.4; 1.1-1.8; P = 0.02), and use new mental health services (adjusted HR, 1.9; 1.2-2.8; P = 0.004) in the following 6 months. CONCLUSIONS: This proactive mental health program with care concierge services identified risk, connected individuals to mental health care, and facilitated mental health treatment, among program participants

**Harma M, Ojajarvi A, Koskinen A, Lie JA, and Hansen J. Shift work with and without night shifts and breast cancer risk in a cohort study from Finland. Occupational and Environmental Medicine. 2023; 80(1):1-6.**
https://doi.org/10.1136/oemed-2022-108347     [open access]
Abstract: Objectives: To examine the association of shift work with and without night work with breast cancer among women in the public sector. Methods: Using the Finnish Public Sector cohort study (N=33 359, mean age of 40.6 years at baseline), we investigated the associations of shift work and potential confounders with incident breast cancer. Exposure to permanent day work or shift work was defined from first two consecutive surveys from 2000, 2004, 2008 or 2012 and past information on exposure in a subcohort (n=20 786). Incident cases of breast cancer (n=1129) were retrieved from the National Cancer Register and the

cohort members were followed to the end of 2016. HR and 95% CI from Cox proportional hazard regression models were calculated. Results: Shift work with and without night shifts was not overall associated with breast cancer. When stratified according to age, both shift work without nights (HR 2.01, 95% CI 1.12 to 3.60) and shift work with nights (OR 2.05, 95% CI 1.04 to 4.01) were associated with an increased risk after a period of 10 years or more follow-up among women aged 50 years or older, when adjusted for age, socioeconomic status, children, smoking, alcohol and body mass index. In a subgroup with past information on exposure to shift work, the increased risk by longer exposure to shift work was not significant. Conclusions: This study provides support for an increased risk of breast cancer among elderly shift workers. However, insufficient information on exposure and intensity of night work may attenuate the risk estimates.

**King DD, Fattoracci ESM, Hollingsworth DW, Stahr E, and Nelson M. When thriving requires effortful surviving: delineating manifestations and resource expenditure outcomes of microaggressions for Black employees. Journal of Applied Psychology. 2023; 108(2):183-207.**

https://doi.org/10.1037/apl0001016

Abstract: Although overt racism is condemned by many organizations, insidious forms of racism persist. Drawing on the conservation of resources framework (Hobfoll, 1989), this article identifies forms and outcomes of racial microaggressions-daily verbal, behavioral, and environmental indignities that denigrate individuals from racially minoritized groups (Sue, Capodilupo, et al., 2007). Leveraging survey data from 345 Black employees, open-ended question qualitative insights delineate three overarching themes of workplace microaggression toward Black employees: anti-Black stereotype expression, racialized role assignment, and interactional injustice. We also detail how these themes manifest in nine distinct ways. Then, we model the cognitive and emotional resource recovery and protection processes that Black employees engage in to overcome workplace microaggressions. Quantitative results demonstrated that workplace microaggressions related to subsequent resource replenishment (i.e., co-rumination, or discussing feelings and venting about problems with coworkers; Rose, 2002) and protection (i.e., racism-related vigilance, or mentally preparing for anticipated racism; Clark et al., 2006) efforts. Further, results suggested undesirable effects of microaggressions on burnout and job satisfaction. Finally, we found a positive relationship between resourcing efforts and job satisfaction but found no support for trait resiliency or organizational support as buffers of microaggression effects. Implications for future research and direct interventions are discussed. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

**Kliniec K, Mendowski M, Zuziak P, Sobieski M, and Grata-Borkowska U. The correlation of frequency of work-related disorders with type of work among Polish employees. International Journal of Environmental Research and Public Health. 2023; 20(2):1624.**
https://doi.org/10.3390/ijerph20021624    [open access]

Abstract: Musculoskeletal disorders have a significant negative impact on the quality of life of the population. These conditions, as well as other work-related disorders, generate costs associated with treatment and work absence, which makes it a growing problem in industrialized countries. Available data from studies on individual populations of workers indicate a higher incidence of certain symptoms in these groups. Due to the lack of studies on the general population, we aimed to perform the preliminary study evaluating the occurrence of pain and work-related conditions depending on the type of occupational work among Polish employees to identify further possible areas for research. Data was collected using an electronic self-administered questionnaire, which was distributed in groups bringing together various professionals. The data obtained from 379 participants have been analyzed and divided according to performed work into sedentary, forced posture, standing, physical and requiring physical activity. Our study reveals a correlation between the frequency of work-related disorders and type of work performed in the Polish population. A significant correlation between the type of occupational work and prevalence of ankle, knee and shoulder pain, as well as heavy legs or upper limb paresthesia was found. According to our findings, female employees may be more vulnerable to lower limb symptoms. A place of residence also seems to affect the prevalence of upper back pain and heavy legs. The analysis also showed a correlation between the occurrence of hip, knee and ankle pain and the level of education of the participants. Surprisingly, lower extremity paresthesia was significantly more common among participants undertaking additional physical activity, compared to non-physically active respondents

**Kurisu K, Song YH, and Yoshiuchi K. Developing action plans based on machine learning analysis to prevent sick leave in a manufacturing plant. Journal of Occupational & Environmental Medicine. 2023; 65(2):140-145.**
https://doi.org/10.1097/JOM.0000000000002700    [open access]

Abstract: OBJECTIVE: We aimed to develop action plans for employees' health promotion based on a machine learning model to predict sick leave at a Japanese manufacturing plant. METHODS: A random forest model was developed to predict sick leave. We developed plans for workers' health promotion based on variable importance and partial dependence plots. RESULTS: The model showed an area under the receiving operating characteristic curve of 0.882. The higher scores on the Brief Job Stress Questionnaire stress response, younger age, and certain departments were important predictors for sick leave due to mental disorders. We proposed plans to effectively use the Brief Job Stress Questionnaire and provide more support for younger workers and managers of high-risk departments. CONCLUSIONS: We

described a process of action plan development using a machine learning model, which may be beneficial for occupational health practitioners

**Marshall IJ, Trikalinos TA, Soboczenski F, Yun HS, Kell G, Marshall R, et al. In a pilot study, automated real-time systematic review updates were feasible, accurate, and work-saving. Journal of Clinical Epidemiology. 2023; 153:26-33.**
https://doi.org/10.1016/j.jclinepi.2022.08.013    [open access]

Abstract: OBJECTIVES: The aim of this study is to describe and pilot a novel method for continuously identifying newly published trials relevant to a systematic review, enabled by combining artificial intelligence (AI) with human expertise. STUDY DESIGN AND SETTING: We used RobotReviewer LIVE to keep a review of COVID-19 vaccination trials updated from February to August 2021. We compared the papers identified by the system with those found by the conventional manual process by the review team. RESULTS: The manual update searches (last search date July 2021) retrieved 135 abstracts, of which 31 were included after screening (23% precision, 100% recall). By the same date, the automated system retrieved 56 abstracts, of which 31 were included after manual screening (55% precision, 100% recall). Key limitations of the system include that it is limited to searches of PubMed/MEDLINE, and considers only randomized controlled trial reports. We aim to address these limitations in future. The system is available as open-source software for further piloting and evaluation. CONCLUSION: Our system identified all relevant studies, reduced manual screening work, and enabled rolling updates on publication of new primary research

**Neupane S, Kyronlahti S, Oakman J, Siukola A, Riekhoff AJ, Kuivalainen S, et al. Can workplace intervention prolong work life of older workers? A quasi-experimental study. International Archives of Occupational & Environmental Health. 2023; 96(2):237-246.**
https://doi.org/10.1007/s00420-022-01919-8    [open access]

Abstract: Background: We aimed to evaluate the impact of a workplace senior program intervention on early exit from labor market and on the disability retirement among older employees and work-related physical factors associated with it. Methods: A total of 259 individuals aged 55 + years participated in the study (107 in intervention and 152 were controls). A questionnaire survey was conducted among Finnish food industry employees between 2003 and 2009 and the intervention "senior program" was provided between 2004 and 2009. The type of pension for the respondents who had retired by 2019 was obtained and dichotomized as statutory vs. early labor market exit. Disability pension was investigated as a separate outcome. Information on work-related factors was obtained from the survey. Cox regression analysis was used to estimate hazard ratios (HR) with their 95% confidence intervals. Results: Fifty-one employees had early labor market exit. Of them, 70% (n = 36) were control participants. Employees in the senior program worked for longer years (mean years 7.4, 95% CI 6.4-8.1) compared to the control (6.6, 95% CI 6.3-7.5). Sixty percent lower risk of early labor market exit (HR 0.40, 95% CI 0.19-0.84) and disability pension was found among employees in the senior program compared to the control group. Good work ability

had a 94% lower risk (0.06, 95% CI 0.01-0.29) of early labor market exit and 85% lower risk (0.15, 95% CI 0.03-0.73) of disability pension compared to poor work ability. Employees with musculoskeletal pain had 4 times higher risk of disability pension compared to those without musculoskeletal pain. Conclusions: A workplace senior program intervention prolonged work life and had positive effect on reducing disability pension among older industrial workers.

**Rondinella S and Silipo DB. The effects of chronic migraine on labour productivity: evidence from Italy. Labour. 2023; 37(1):1-32.**
https://doi.org/10.1111/labr.12230    [open access]
Abstract: We use the Italian Statistical Institute survey that comprises about 80,000 questionnaires representative of the overall population between 15 and 90 years old to estimate the impact of chronic migraine on absenteeism and labour productivity. Using an ordinary least squares method to determine the direct effect of chronic migraine on labour productivity, we show that a 10 per cent increase in the number of people with chronic migraine increases absenteeism by 11 per cent and reduces labour productivity by 1.1 per cent per year. However, the effects of chronic migraine on absenteeism and labour productivity vary substantially between regions and sectors. Also, the comorbidity of chronic migraine with other illnesses, especially psychological illnesses, contributes to decreasing labour productivity. Most important, the results obtained at the micro level are similar and even more robust at the macro level. The results refer to a specific country, but we claim they can apply to other countries.

**Tsai J, Umucu E, and Fish K. Job automation and concerns during the COVID-19 pandemic among middle and low-income US Adults. Journal of Occupational & Environmental Medicine. 2023; 65(2):113-118.**
https://doi.org/10.1097/JOM.0000000000002734    [open access]
Abstract: OBJECTIVE: This study examined job automation and concerns about job automation during the COVID-19 pandemic. METHODS: Data from a national sample of 6607 middle- and low-income US adults in May to June 2020 were analyzed. RESULTS: Among recently employed participants, 19.1% reported partial or complete job automation during the pandemic. Male sex, racial/ethnic minorities, students, higher education, full-time employment, and any history of psychiatric disorder were associated with job automation. In the total sample, 57.5% had concerns about job automation, which were associated with younger age, male, racial/ethnic minorities, students, veterans, more minors in the household, Northeast residence, any history of psychiatric diagnosis, COVID-19 infection, and any recent job changes. CONCLUSIONS: Job automation is impacting the lives of middle- and low-income US adults, and particular groups are vulnerable to ongoing changes in the nature of work

**Weinberger KR, Tamburic L, Peters CE, and McLeod CB. Heat-related illness among workers in British Columbia, 2001-2020. Journal of Occupational & Environmental Medicine. 2023; 65(2):e88-e92.**

https://doi.org/10.1097/JOM.0000000000002761

Abstract: OBJECTIVE: The aim of this study was to describe the incidence of heat-related illness among workers in British Columbia (BC), Canada, 2001-2020. METHODS: Cases of heat-related illness occurring among workers aged 15 years and older were identified from accepted lost-time claims from WorkSafeBC, the provincial workers' compensation board. Incidence rates were calculated using monthly estimates of the working population from Statistics Canada's Labour Force Survey as the denominator. RESULTS: Between 2000 and 2020, there were 528 heat-related illness claims, corresponding to a rate of 1.21 (95% confidence interval, 1.10-1.31) claims per 100,000 workers. Eighty-four percent of claims occurred between June and August. Rates were higher among male workers, younger workers, and among those working in occupations related to primary industry; trades, transport, and equipment operators; and processing, manufacturing, and utilities. CONCLUSIONS: In BC, lost-time claims for heat-related illness occurred disproportionately among certain subgroups of the workforce

**Wong JJ, DeSouza A, Hogg-Johnson S, De Groote W, Southerst D, Belchos M, et al. Measurement properties and minimal important change of the World Health Organization Disability Assessment Schedule 2.0 in persons with low back pain: a systematic review. Archives of Physical Medicine & Rehabilitation. 2023; 104(2):287-301.**

https://doi.org/10.1016/j.apmr.2022.06.005     **[open access]**

Abstract: Objective: To determine the measurement properties and minimal important change (MIC) of the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) short (12 questions) and full (36 questions) versions in persons with nonspecific low back pain (LBP). Data sources: MEDLINE, Embase, Cumulative Index to Nursing and Allied Health Literature, APA PsycInfo, and Cochrane Central Register of Controlled Trials (inception to May 2021). Study selection: Eligible studies assessed measurement properties or MIC of WHODAS 2.0 in persons with LBP. Data extraction: Paired reviewers screened articles, extracted data, and assessed risk of bias using Consensus-Based Standards for Selection of Health Measurement Instruments (COSMIN) and COSMIN-Outcome Measures in Rheumatology checklists. Data synthesis: We descriptively synthesized results stratified by measurement property and LBP duration (subacute: 6 weeks to 3 months; chronic: =3 months). Results: We screened 297 citations and included 14 studies (reported in 15 articles). Methodological quality of studies was very good for internal consistency and varied between very good and doubtful for construct validity, doubtful for responsiveness, and adequate for all other properties assessed. Evidence suggests that WHODAS 2.0 full version has adequate content validity (2 studies); WHODAS 2.0 short and full versions have adequate structural validity (3 studies), but construct validity is indeterminate (9 studies). WHODAS 2.0 short and full versions have adequate internal consistency (10 studies), and the full version has adequate

test-retest and interrater reliability (3 studies) in persons with LBP. Minimal detectable change (MDC) was 10.45-13.99 of 100 for the full version and 8.6 of 48 for the short version in persons with LBP (4 studies). WHODAS 2.0 full version has no floor or ceiling effects, but the short version has potential floor effects in persons with chronic LBP (3 studies). One study estimated MIC for the full version as 4.87 of 100 or 9.74 of 100 (corresponding to 1- and 2-point change on 0- to 10-cm visual analog scale for pain, respectively), and 1 study estimated 3.09-4.68 of 48 for the short version. Conclusions: In persons with LBP, WHODAS 2.0 full version has adequate content validity, structural validity, internal consistency, and reliability. WHODAS 2.0 short version has adequate structural validity and internal consistency. Construct validity of the short and full versions is indeterminate. Since MDC is estimated to be larger than MIC, users may consider both MIC and MDC thresholds to measure change in functioning for LBP.

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