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

Bilotta I, Dawson JF, and King EB. The role of fairness perceptions in patient and employee health: a multilevel, multisource investigation. *Journal of Applied Psychology*. 2022; 107(9):1441-1458.

<https://doi.org/10.1037/apl0000736>

Abstract: This research extends the group engagement model (GEM) to examine how fairness judgments implicate both organizational-level and individual-level outcomes, including patient health and satisfaction (i.e., patient health outcomes) and employee health. Based on the social identity arguments of the GEM, we argue that fair career advancement procedures at the organizational level and experiences of discrimination at the individual level are indicators of identity-based evaluations of fairness. Utilizing annual staff survey data from the National Health Service (NHS) in the U.K. (n = 147 hospitals with n = 60,602 employees), we observe that organizational fairness of career advancement procedures significantly relates to patient health through the hospital-level mediator, employee voice. Individual fairness of an employee's personal experience with discrimination significantly relates to employee health through the individual-level mediator, psychological safety. Results support the three-stage indirect effect from organizational-level fairness to employee health via individual-level fairness and individual-level psychological safety. In supplemental studies, measurement limitations are addressed through multitrait multimethod matrix and content validation approaches. These results indicate that the archival NHS measures sufficiently operationalize the constructs of interest providing further support for the hypothesized model. The theoretical and practical implications of this work for multilevel conceptualizations of fairness

and healthcare organizations are presented. (PsycInfo Database Record (c) 2022 APA, all rights reserved)

Corbaz-Kurth S, Juvet TM, Benzakour L, Cereghetti S, Fournier CA, Moullec G, et al. How things changed during the COVID-19 pandemic's first year: a longitudinal, mixed-methods study of organisational resilience processes among healthcare workers. Safety Science. 2022; 155:105879.

<https://doi.org/10.1016/j.ssci.2022.105879> [open access]

Abstract: COVID-19 had a huge impact on healthcare systems globally. Institutions, care teams and individuals made considerable efforts to adapt their practices. The present longitudinal, mixed-methods study examined a large sample of healthcare institution employees in Switzerland. Organisational resilience processes were assessed by identifying problematic real-world situations and evaluating how they were managed during three phases of the pandemic's first year. Results highlighted differences between resilience processes across the different types of problematic situations encountered by healthcare workers. Four configurations of organisational resilience were identified depending on teams' performance and ability to adapt over time: "learning from mistakes", "effective development", "new standards" and "hindered resilience". Resilience trajectories differed depending on professional categories, hierarchical status and the problematic situation's perceived severity. Factors promoting or impairing organisational resilience are discussed. Findings highlighted the importance of individuals', teams' and institutions' meso- and micro-level adaptations and macro-level actors' structural actions.

Douplat M, Termoz A, Subtil F, Haesebaert J, Jacquin L, Durand G, et al. Changes over time in anxiety, depression, and stress symptoms among healthcare workers in French emergency departments during the first COVID-19 outbreak. Journal of Affective Disorders. 2022; 316:194-200.

<https://doi.org/10.1016/j.jad.2022.08.028> [open access]

Abstract: Study objective: Assess the changes in anxiety, depression, and stress levels over time and identify risk factors among healthcare workers in French emergency departments (EDs) during the first COVID-19 outbreak. Method: A prospective, multicenter study was conducted in 4 EDs and an emergency medical service (SAMU). During 3 months, participants completed fortnightly questionnaires to assess anxiety, depression, and stress using the Hospital Anxiety and Depression and the Chamoux-Simard scale. The changes in anxiety, depression, and stress levels over time were modelled by a linear mixed model including a period effect and a continuous time effect within periods. Results: A total of 211 respondents (43.5 %) completed the survey at inclusion. There was a decrease in mean anxiety (from 7.33 to 5.05, $p < 0.001$), mean depression (from 4.16 to 3.05, $p = 0.009$), mean stress at work (from 41.2 to 30.2, $p = 0.008$), and mean stress at home (from 33.0 to 26.0, $p = 0.031$) at the beginning of each period. The mean anxiety level was higher for administrative staff (+0.53) and lower for paramedics (-0.61, $p = 0.047$) compared to physicians. The anxiety level

increased with the number of day and night shifts (0.13/day, $p < 0.001$, 0.12/night, $p = 0.025$) as did stress at work (1.6/day, $p < 0.001$, 1.1/night, $p = 0.007$). Reassigned healthcare workers were at higher risk of stress particularly compared to SAMU workers (stress at work: $p = 0.015$, at home: $p = 0.021$, in life in general: $p = 0.018$). Conclusion: Although anxiety, depression, and stress decreased over time, anxiety was higher among physicians and administrative staff. Reassignment and working hours were identified as potential risk factors for mental health distress in EDs.

Fisker J, Hjorthoj C, Hellstrom L, Mundy SS, Rosenberg NG, and Eplöv LF. Predictors of return to work for people on sick leave with common mental disorders: a systematic review and meta-analysis. *International Archives of Occupational & Environmental Health*. 2022; 95(7):1429- 1441.

<https://doi.org/10.1007/s00420-021-01827-3>

Abstract: Purpose: To support the return to work following common mental disorders knowing which factors influence the return to work is important. We aimed to identify factors predicting return to work for people on sick leave with disorders like stress, anxiety, and depression. Methods: A systematic review and meta-analyses were conducted regarding return to work at any time point, < 3 months, 3-12 months, and > 12 months of sick leave, respectively, and diagnostic subgroups. Results: The meta-analyses included 29 studies. Predictors decreasing return to work probability at any time point were higher age, being male, neuroticism and openness, previous sickness absence, and higher symptom scores. Predictors increasing return to work probability were positive return to work expectations, high return to work- and general self-efficacy, conscientiousness, and high workability index. Return to work within < 3 months of sick leave was associated with positive return to work expectations. Return to work after > 12 months was increased by higher education. Higher age was associated with decreased return to work probability after > 12 months. No significant predictors were found in diagnostic subgroups. Conclusion: Results are overall consistent with earlier reviews. Future studies should focus on specific time points, diagnostic subgroups, and work-related factors. Prospero registration id: CRD42018073396.

Huntley CC, Burge PS, Moore VC, Robertson AS, and Walters GI. Occupational asthma in office workers. *Occupational Medicine*. 2022; 72(6):411-414.

<https://doi.org/10.1093/occmed/kqac023>

Abstract: BACKGROUND: Office work has a relative perception of safety for the worker. Data from surveillance schemes and population-based epidemiological studies suggest that office work carries a low risk of occupational asthma (OA). Office workers are frequently used as comparators in studies of occupational exposure and respiratory disease. AIMS: We aimed to describe and illustrate our tertiary clinical experience of diagnosing OA in office workers. METHODS: We searched the Birmingham NHS Occupational Lung Disease Service clinical database for cases of occupational respiratory disease diagnosed between 2002 and 2020, caused by office work or in office workers. For patients with OA, we gathered existing data on

demographics, diagnostic tests including Occupational Asthma SYStem (OASYS) analysis of serial peak expiratory flow and specific inhalational challenge, and employment outcome. We summarised data and displayed them alongside illustrative cases. RESULTS: There were 47 cases of OA (5% of all asthma) confirmed using OASYS analysis of PEFs in the majority. Sixty percent of cases occurred in healthcare, education and government sectors. The most frequently implicated causative exposures or agents were: indoor air (9), printing, copying and laminating (7), cleaning chemicals (4), mould and damp (4), and acrylic flooring and adhesives (4). Exposures were grouped into internal office environment, office ventilation-related and adjacent environment. CONCLUSIONS: Clinicians should be vigilant for exposures associated with OA in office workers who present with work-related symptoms, where respiratory sensitizing agents may be present. A structured approach to assessment of the workplace is recommended

Khare C, McGurk SR, and Mueser KT. A 1-year prospective study of employment in people with severe mental illnesses receiving public sector psychiatric services in India. *Psychiatric Rehabilitation Journal*. 2022; 45(3):237-246.

<https://doi.org/10.1037/prj0000512>

Abstract: OBJECTIVE: Limited research has been conducted on the long-term course of employment in people with severe mental illnesses (SMI) in developing countries such as India. To inform the development of culturally appropriate vocational services in India we prospectively evaluated work status, perceived benefits, and problems related to work in employed participants, and interest in work, barriers to work, and desired job supports among unemployed participants over a 1-year period. METHODS: We conducted semistructured interviews with 150 individuals with SMI (90% schizophrenia-schizoaffective) receiving psychiatric outpatient services at a public hospital in an urban district in India at baseline and followed up 1 year later. One-hundred-and-seven participants (71.3%) completed the follow-up interviews. RESULTS: Work status (employed/unemployed) was consistent in 90.7% of participants, with 43.9% working at baseline and 49.5% working at follow-up. Participants who were working in the same job at both assessments were consistent in identifying several work-related problems (e.g., stress) as well as benefits (e.g., money). Interest in work among unemployed participants was consistent, with 78.8% interested at both assessments. Participants who were unemployed but interested in work consistently identified work barriers (e.g., cognitive difficulties) and desired job supports (e.g., assistance with job finding). CONCLUSIONS AND IMPLICATIONS FOR PRACTICE: Unemployment rates are moderately high and stable in people with SMI, with most unemployed participants consistently interested in working and desiring job supports. These findings, together with stable employment rates in working participants, suggest that supported employment developed for the Indian context could improve employment in people with SMI. (PsycInfo Database Record (c) 2022 APA, all rights reserved)

Lin JH, Lee W, Smith CK, Yragui NL, Foley M, and Shin G. Cleaning in the 21st Century: the musculoskeletal disorders associated with the centuries-old occupation: a literature review. *Applied Ergonomics*. 2022; 105:103839.

<https://doi.org/10.1016/j.apergo.2022.103839>

Abstract: Workers performing cleaning duties experience higher injury rates, especially in the form of musculoskeletal disorders (MSDs), than other industries. It is essential to understand the inherent risks associated with the nature of this occupation. Based on the Balance Theory (Smith & Carayon-Sainfort, 1989), this review surveys the current literature, especially those published since the previous review paper (Kumar & Kumar, 2008), and identifies which elements contributing to MSD risks were examined: task, technology, organization, environment, individual, and their interactions. Thirty-nine research papers published between 2005 and 2021 are identified and summarized. Among these papers, task and individual elements received the most attention, at 42 and 34 occurrences, respectively. The interaction elements of technology-organization, technology-environment, and organization-environment received less than three mentions. The goal of this literature review is to update the knowledge base and identify current trends for the cleaning occupation. Possible interventions for risk reduction and future research directions are suggested

Masci F, Spatari G, Giorgianni CM, Antonangeli LM, D'Arrigo A, Biasina AM, et al. Occupational hand and wrist disorders among forestry workers: an exposed-control study to investigate preventive strategies. *Work*. 2022; 72(4):1249-1257.

<https://doi.org/10.3233/WOR-205034>

Abstract: BACKGROUND: In the arboriculture sector, some activities are still manually performed by forestry workers, which result consequently exposed to a high risk of developing muscle skeletal disorders. The Italian Compensation Authority reported an increase of work-related tendinopathies and carpal tunnel syndrome in loggers, but screening protocols are not available yet. OBJECTIVES: The objectives were: a) to evaluate the prevalence of tendinopathies and carpal tunnel syndrome in a sample of loggers and b) identify a sound screening approach. METHODS: 41 loggers and 41 paired control workers were recruited for a total of 164 hands. The protocol included 1) demographic data; 2) medical history; 3) identification of CTS symptoms through a questionnaire and a hand-chart; 4) upper limbs clinical examination; 5) Raynaud's diseases questionnaire; 6) wrists ultrasound; 7) NCS of the distal median nerve. RESULTS: The prevalence of tendinopathies was statistically significant only in the non-dominant hand (75, 5% in the exposed group and 53, 6% in the non-exposed group). The prevalence of CTS was 32, 2% in the exposed group and 15, 5% in the non-exposed group. The questionnaire had a sensitivity of 56, 7% and a specificity of 75%. The hand-chart had a sensitivity of 30% and a specificity of 92%. The clinical examination had sensitivity of 30% and specificity of 80%. The ultrasound had a sensitivity of 70% and a specificity of 56%. CONCLUSIONS: Loggers are a population at risk of

occupational hand and wrist disorders. The hand-chart could be considered, together with the questionnaire, as the best secondary prevention tool to diagnose CTS

Padrosa E, Vanroelen C, Muntaner C, Benach J, and Julia M. Precarious employment and mental health across European welfare states: a gender perspective. *International Archives of Occupational & Environmental Health*. 2022; 95(7):1463-1480.

<https://doi.org/10.1007/s00420-022-01839-7>

Abstract: **OBJECTIVE:** The aim of this article was to examine the relationship between precarious employment (PE), welfare states (WS) and mental health in Europe from a gender perspective. **METHODS:** Data were derived from the European Working Conditions Survey 2015. PE was measured through the Employment Precariousness Scale for Europe (EPRES-E), validated for comparative research in 22 European countries, and categorized into quartiles. Countries were classified into Continental, Anglo-Saxon, Scandinavian, Southern and Central-Eastern WS. Mental health was assessed through the WHO-5 Well-Being Index and dichotomized into poor and good mental health. In a sample of 22,555 formal employees, we performed gender-stratified multi-level logistic regression models. **RESULTS:** Results showed greater prevalences of PE and poor mental health among women. However, the association between them was stronger among men. Cross-country differences were observed in multi-level regressions, but the interaction effect of WS was only significant among women. More precisely, Central-Eastern WS enhanced the likelihood of poor mental health among women in high precarious employment situations (quartiles 3 and 4). **CONCLUSIONS:** These findings suggest the interaction between contextual and individual factors in the production of mental health inequalities, both within and across countries. They also call for the incorporation of gender-sensitive welfare policies if equitable and healthy labor markets are to be achieved in Europe

Reims N and Tisch A. Employment effects for people with disabilities after participation in vocational training programmes: a cohort analysis using propensity score matching. *Work*. 2022; 72(2):611-625.

<https://doi.org/10.3233/WOR-205046>

Abstract: **Background:** Vocational rehabilitation (VR) aims to help people with disabilities to return to the labour market. Though, there is not much evidence on its effectiveness. **Objectives:** We explore the effect of vocational training programmes in VR and the VR status itself on employment outcomes. **Methods:** Using two samples from administrative data by the German Federal Employment Agency, we applied propensity score matching. We followed rehabilitants commencing VR in 2009/2010 (N = 7,905) for four years (comparison I) and general training participants with and without VR status completing training in 2012/2013 (N = 21,020) for one year (comparison II). For harmonisation purposes, we only considered individuals aged between 25 and 40 and excluded those in employment at the beginning of VR or training. **Results:** Concerning the effect of training in VR (comparison I), we observe a lock-in effect during training ($p < 0.001$) due to an involvement in VR; after training,

participants are more likely to obtain unsubsidised employment (0.05, $p < 0.05$) than non-participants, but there is no statistically significant income difference after four years. Regarding the effect of the VR status (comparison II), rehabilitants are more likely to take up (un-)subsidised employment (0.04, $p < 0.01$; 0.02, $p < 0.001$) after training, exhibit longer employment durations (19 days, $p < 0.001$) and achieve higher average incomes (2,414 euro/year, $p < 0.001$) compared to non-rehabilitants. Conclusions: Training participation helps to improve employment participation of rehabilitants. However, a longer observation period is recommended. Furthermore, the VR status itself leads to more sustainable and better-paid employment. This is due to more comprehensive support and longer-term subsidised employment opportunities.

Rotenberg S, Leung C, Quach H, Anderson ND, and Dawson DR. Occupational performance issues in older adults with subjective cognitive decline. *Disability and Rehabilitation*. 2022; 44(17):4681-4688.

<https://doi.org/10.1080/09638288.2021.1916626>

Abstract: Purpose: To describe and categorize difficulties in daily activities of older adults with subjective cognitive decline (SCD) compared to individuals with mild cognitive impairment (MCI). Methods: Deductive quantitative content analysis was used to classify reported issues in the performance of meaningful daily activities, in older adults with SCD ($n = 67$; age = 70 ± 6.3) or MCI ($n = 42$; age = 72 ± 6.6). The occupational performance issues were identified using the Canadian Occupational Performance Measure, a semi-structured interview, and categorised using the International Classification of Functioning, Disability and Health (ICF). Results: Both groups identified issues in all nine ICF "Activities and Participation" domains, with no significant group effects on seven of them. The most frequently affected "Activities and Participation" domains in both groups were "Self-care" (e.g. exercise and diet); "Community, social and civic life" (e.g. social-leisure activities); and "General tasks and demands" (e.g. time management). Over 90% of the issues in both groups were described in the context of difficulties in "Mental functions" (e.g. memory and higher-level cognitive functions). Conclusions: Older adults with SCD, although independent, identified a variety of daily activities that they are not performing satisfactorily, remarkably similar in nature to the occupational performance issues described by older adults with MCI. Implications for Rehabilitation Older adults with SCD identified difficulties in performing social and leisure activities, maintaining healthy lifestyle behaviours, and managing multiple daily tasks. The daily challenges described by older adults with SCD are similar in nature to those identified by those with MCI. Older adults with SCD and MCI describe their daily challenges are related not only to memory problems, but also to executive dysfunction. Interventions for older adults with SCD should aim to improve self-identified problems in everyday functioning.

SantaBarbara NJ, Rezai R, Soetenga S, Terry E, Carpenter CL, and Comulada WS. Exercise preferences for a workplace wellness program to reduce cardiovascular risk and increase work productivity. *Journal of Occupational & Environmental Medicine*. 2022; 64(9):e545-

e549.

<https://doi.org/10.1097/JOM.0000000000002608>

Abstract: OBJECTIVE: Workplace wellness programs can reduce cardiovascular risk and improve worker productivity; however, recruitment and adherence remain a challenge. Tailoring programs based on employee exercise preferences may address these concerns. METHODS: A total of 458 UCLA adult employees who responded to UCLA Bruin marketing e-mail completed a battery of questions regarding their exercise preferences (eg, preferred duration, intensity, type). Recruitment took place in June 2021. RESULTS: Participants prefer workplace wellness programs that (1) focus on improving multiple different aspects of physical health; (2) take place in a variety of locations; (3) were administered by a coach who is physically present; (4) occur 2-3 times per week for roughly 60 minutes each time; (5) include a range of intensities; and (6) consist of aerobic and weight training. CONCLUSIONS: Future studies should use these results to design future workplace wellness programs

Schimmel Hyde J, Wu AY, and Livermore G. Responding to disability onset in the late working years: what do older workers do? *Research on Aging*. 2022; 44(9-10):643-657.

<https://doi.org/10.1177/01640275221074634>

Abstract: This study uses occupational data from the Health and Retirement Study to document the link between disability onset and occupational transitions among older adults who are working and do not report a disabling condition at age 55. We find that one-quarter of workers go on to experience new disabilities before full-retirement age. Relative to their peers who do not report disabilities, stopping work and significant occupational changes are more common among workers who experience new disabilities. Our results suggest that policies to support labor force attachment might consider the importance of new disability onset and whether employer accommodations might help workers with new disabling conditions remain in the jobs they held when their health began to limit their work

Shannon B, Jennings W, and Friedman L. Systematic scoping review of occupational health injuries and illnesses among Indigenous workers. *Occupational & Environmental Medicine*. 2022; 79(9):577-585.

<https://doi.org/10.1136/oemed-2022-108264>

Abstract: Indigenous populations in the USA, Australia, New Zealand (NZ) and Canada total more than 13 million, but continue to be marginalised in their respective regions. The goal of this comprehensive review of all studies evaluating adverse occupational health outcomes among Indigenous populations in these countries was to identify gaps in the literature and future research directions. A systematic scoping review of research published between 1970 and 2020 was undertaken using the methodological framework initially proposed by Arksey and O'Malley. Country, Indigenous participants, study type, exposure, adverse health outcome, occupation and industry were identified for each paper. Of the 1272 research papers identified, only 51 articles met the inclusion criteria of this scoping review. Almost half of the studies (n=24, 47.1%) were published after 2010. Only 13 (25.5%) studies specifically

focused on Indigenous persons at the time of the study design, and less than half of the studies (47.1%) included more than 100 Indigenous participants. Most studies used the following general terms without mention of specific indigenous groups: Indigenous (Australia), Maori (NZ), Aboriginal (Canada) and American Indian or Alaskan Native (USA). Only one study acknowledged asking respondents their preferred terminology. Over the past 50 years, there has been a paucity of research directly or indirectly evaluating occupational health outcomes of Indigenous populations in these four countries. There is a need for better sampling strategies and inclusion of demographic questions that capture Indigenous status in surveys, workers' compensation data and other commonly used data sources to develop adequate baseline data for targeted future interventions

Varghese A and Panicker VV. Effect of MSDs and scope of ergonomic interventions among rubber processing workers: a systematic review. *La Medicina del Lavoro*. 2022; 113(4):e2022032.

<https://doi.org/10.23749/mdl.v113i4.12826>

Abstract: BACKGROUND: The rubber processing workers experience various types of musculoskeletal disorders (MSDs) due to awkward postures, repetitive movements, and manual loads etc. Research on MSDs and ergonomic interventions in this area is limited. Therefore, the present systematic review aims to (i) identify various operations done by rubber processing workers and their associated MSDs, (ii) explore the ergonomic intervention and post-intervention study and its impact among the workers, (iii) identify the research gaps in MSDs and ergonomic interventions through bibliometric analysis. METHODS: Comprehensive electronic searches were conducted in Web of Science, ScienceDirect and PubMed for the search term "Ergonomics" or "Musculoskeletal disorder" and "Rubber" for the article published before 2020. Eleven papers were identified for the review of MSDs and ergonomic interventions; data were extracted to summarize sample size, data collection methods, analyzing tools, various operations, MSDs, and ergonomic interventions. RESULTS: The reviewed article is classified according to various operations such as rubber tapping, latex collection, rubber sheeting and sheet pressing. The review reveals that most of the workers experience lower back pain, which involved a traditional way of operating. Every author is trying to recommend some interventions, but post-intervention studies are limited. CONCLUSIONS: Due to the limited post-intervention study, there is a scope of ergonomic interventions in every operation. So, the implementation of a proper ergonomic tool with adequate awareness improves the MSDs among the rubber processing workers. The review will help to identify the various intervention gaps in different operations associated with rubber farming

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