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**\*Jessiman-Perreault G, Gignac MAM, Thompson A, and Smith PM. Understanding the unmet accommodation needs of people working with mental or cognitive conditions: the importance of gender, gendered work, and employment factors. *Journal of Occupational Rehabilitation*. 2023; [epub ahead of print].**

<https://doi.org/10.1007/s10926-023-10132-4> [open access]

**Abstract:** Purpose: Workplace support needs for women and men living with mental health conditions are not well understood. This study examined workplace accommodation and support needs among women and men with and without mental health or cognitive conditions and individual and workplace factors associated with having unmet needs. **Methods:** A cross-sectional survey of 3068 Canadian workers collected information on disability, gender, gendered occupations, job conditions, work contexts, and workplace accommodations. Multivariable logistic regression analyses examined gender- and disability-based differences in unmet needs for workplace flexibility, work modifications, and health benefits, and the association of work context (i.e., work schedule, job sector) and job conditions (i.e., precarious work) on the likelihood of unmet accommodation needs. The additive (i.e., super- or sub-additive) and multiplicative effects of disability, gender, and occupational gender distribution on the probability of unmet accommodation needs were also assessed. **Results:** The most common unmet workplace accommodation was work modifications reported by 35.9% of respondents with mental/cognitive disability and workplace flexibility reported by 19.6% of individuals without a mental/cognitive disability. Women, employees in female dominant occupations, and participants with mental/cognitive

disabilities were more likely to report unmet needs compared with men, employees in non-female dominant occupations, and participants without disabilities but these findings were largely explained by differences in job conditions and work contexts. No interacting effects on the likelihood of reporting unmet needs for workplace accommodations were observed. Conclusions: To support employee mental health, attention is needed to address work contexts and job conditions, especially for people working with mental/cognitive disabilities, women, and workers in female-dominated occupations where unmet accommodation needs are greatest.

**Appel-Meulenbroek R, Voulon T, Bergefurt L, Arkesteijn M, Hoekstra B, and Jongens-Van der Schaaf P. Perceived health and productivity when working from home during the COVID-19 pandemic. *Work*. 2023; 76(2):417-435.**

<https://doi.org/10.3233/WOR-220575>

Abstract: BACKGROUND: During the COVID-19 pandemic, office workers were obliged to work from home (WFH). Alongside known positive aspects of home-based telework, it is associated with reduced health and productivity impacts. Its success depends on employee and environmental characteristics. OBJECTIVE: This paper fills the gap in knowledge on the mediating role of health between personal and environmental factors and employee productivity, when obliged to work from home full-time. It covers health in full (physical, mental, and social) unlike other WFH studies. METHODS: Two large survey-based datasets (gathered April 27th - November 20th, 2020) were analysed resp. with a path model and descriptive analyses. The data provide experiences on health and productivity of resp. 25,058 and 18,859 Dutch office workers from different public organisations, who were obliged to work from home during the COVID-19 lockdowns. RESULTS: In general, the workers in the sample perceived their health to be quite good. Path analysis revealed that gender, age, education, the at-home workspace, the presence of children in the household, and perceived organisational support were significantly related to self-perceived productivity. However, most of these effects were found to be mediated by physical, mental, and/or social health indicators. Possible explanations for health issues from the descriptive analyses were sedentary behaviour, unsuitable furniture, having to be at home, social isolation and changed content and frequency of contact with colleagues. CONCLUSION: Findings imply that specifically engagement and organisational support of teleworkers are most relevant to steer on to ensure productivity while WFH

**Bergefurt L, Appel-Meulenbroek R, and Arentze T. How physical home workspace characteristics affect mental health: a systematic scoping review. *Work*. 2023; 76(2):489-506.**

<https://doi.org/10.3233/WOR-220505>

Abstract: BACKGROUND: During the 1990s, voluntary teleworking became more grounded, because of expected advantages as increased productivity and comfort. However, COVID-19 obliged employees to work from home (WFH), even in unsuitable houses, which might have

reduced their mental health. A holistic overview of methods and measures of the physical home-workspace characteristics and mental health is currently lacking. Insights in the potential influence of the physical home-workspace on mental health are also not yet holistically examined. **OBJECTIVE:** The aim of this study is to provide insights in previously studied relationships between the physical home-workspace and mental health and to identify measures for both using a systematic scoping review. **METHODS:** This study used the PRISMA method to systematically review existing literature. **RESULTS:** Most studies focussed on noise, acoustics, and privacy, in relation to productivity, concentration, and sleep quality. Only a few studies used objective measures for physical home-workspace characteristics. **CONCLUSION:** The list of relevant measures can be used by academics to examine relationships between the home-workspace and mental health further. Workplace managers can use it to help employees in optimizing their home-workspace

**Cary MPJ, Zink A, Wei S, Olson A, Yan M, Senior R, et al. Mitigating racial and ethnic bias and advancing health equity in clinical algorithms: a scoping review. Health Affairs. 2023; 42(10):1359-1368.**

<https://doi.org/10.1377/hlthaff.2023.00553>

**Abstract:** In August 2022 the Department of Health and Human Services (HHS) issued a notice of proposed rulemaking prohibiting covered entities, which include health care providers and health plans, from discriminating against individuals when using clinical algorithms in decision making. However, HHS did not provide specific guidelines on how covered entities should prevent discrimination. We conducted a scoping review of literature published during the period 2011-22 to identify health care applications, frameworks, reviews and perspectives, and assessment tools that identify and mitigate bias in clinical algorithms, with a specific focus on racial and ethnic bias. Our scoping review encompassed 109 articles comprising 45 empirical health care applications that included tools tested in health care settings, 16 frameworks, and 48 reviews and perspectives. We identified a wide range of technical, operational, and systemwide bias mitigation strategies for clinical algorithms, but there was no consensus in the literature on a single best practice that covered entities could employ to meet the HHS requirements. Future research should identify optimal bias mitigation methods for various scenarios, depending on factors such as patient population, clinical setting, algorithm design, and types of bias to be addressed

**Chan H, Erdelyi S, Jiang A, McLeod C, Koehoorn M, and Brubacher JR. Did implementation of no-fault auto-insurance in British Columbia, Canada, impact return to work following road trauma? Protocol for a before-after survival analysis. BMJ Open. 2023; 13(9):e075858.**

<https://doi.org/10.1136/bmjopen-2023-075858> [open access]

**Abstract:** Introduction: Road trauma (RT) is a major public health problem that often results in prolonged absenteeism from work. Limited evidence suggests that recovery after RT is associated with automobile insurance compensation schemes. In May 2021, British Columbia, Canada switched from fault-based to no-fault auto-insurance coverage. This manuscript

presents the protocol for a planned evaluation of that natural experiment: We will evaluate the impact of changing automobile insurance schemes on return to work following RT. Methods and analysis: The evaluation will use a before-after design to analyse auto-insurance claims (1 April 2019 to 30 April 2024) in order to compare recovery of claimants with non-catastrophic injuries who filed claims under the no-fault insurance scheme to that of those who filed claims under the previous system. Claimants will be followed from date of injury until they return to work or have been followed for 6 months (right-censored). We will perform sensitivity analyses to examine the robustness of our findings. First, we will exclude injuries that occurred during the COVID-19 provincial State of Emergency. Second, we will use propensity score methods rather than conventional covariate adjustment to address potential imbalance between characteristics of claimants pre-change and post-change. Finally, as the implementation effect may have a heterogeneous association with time off work, we will use quantile regression with right-censoring at 6 months to model differences in return to work at the 25th, 50th, 75th and 90th percentiles. Ethics and dissemination: The study uses de-identified data and is approved by the University of British Columbia Clinical Research Ethics Board (H20-03644). This research is funded by the Insurance Corporation of British Columbia (ICBC). Findings will be published in the peer-reviewed literature and summarised in a report prepared for ICBC. We anticipate that our findings will inform policy decisions in other jurisdictions considering switching to no-fault auto-insurance schemes.

**Frasie A, Houry M, Plourde C, Robert MT, Bouyer LJ, and Roy JS. Feedback for the prevention and rehabilitation of work-related musculoskeletal disorders: a systematic review. Work. 2023; 76(1):61-94.**

<https://doi.org/10.3233/WOR-220545>

**Abstract:** BACKGROUND: Work-related musculoskeletal disorders (WRMSDs) remain a challenge despite research aimed at improving their prevention and treatment. Extrinsic feedback has been suggested for the prevention and rehabilitation of WRMSDs to improve sensorimotor control, and ultimately to reduce pain and disability. However, there are few systematic reviews on the effectiveness of extrinsic feedback for WRMSDs. OBJECTIVE: To perform a systematic review investigating the effect of extrinsic feedback for the prevention and rehabilitation of WRMSDs. METHODS: Five databases (CINAHL, Embase, Ergonomics Abstract, PsycInfo, PubMed) were searched. Studies of various designs assessing the effects of extrinsic feedback during work tasks on three outcomes (function, symptoms, sensorimotor control) in the context of prevention and rehabilitation of WRMSDs were included. RESULTS: Forty-nine studies were included, for a total sample of 3387 participants (including 925 injured) who performed work-related tasks in the workplace (27 studies) or in controlled environments (22 studies). The use of extrinsic feedback was shown to be effective in controlled environments for short-term prevention of functional limitations and sensorimotor alterations (very limited to moderate evidence) and for improving, in injured participants, function, symptoms and sensorimotor control (moderate evidence). In the workplace, it was shown to be effective for short-term prevention of functional limitations

(limited evidence). There was conflicting evidence regarding its effect for WRMSD rehabilitation in the workplace. **CONCLUSION:** Extrinsic feedback is an interesting complementary tool for the prevention and rehabilitation of WRMSDs in controlled environments. More evidence is needed regarding its effect for the prevention and rehabilitation of WRMSDs in the workplace

**Gandhi SA, Heinzerling A, Flattery J, Fazio JC, Alam A, Cummings KJ, et al. Active surveillance of engineered stone workers facilitates early identification of silicosis: a discussion of surveillance of occupational lung diseases. *New Solutions*. 2023; 33(2-3):119-129.**

<https://doi.org/10.1177/10482911231189503>

**Abstract:** Silicosis in workers exposed to respirable crystalline silica while fabricating engineered stone products is an emerging respiratory health issue. We describe silicosis in engineered stone workers in California and examine clinical features by the source of identification. Cases were identified passively using hospital-based patient discharge data or actively through outreach and medical testing following enforcement investigation. Outcomes were examined based on the source of case identification. We identified 18 cases diagnosed between 2006 and 2020. Cases identified passively compared to other identification methods were associated with lower percent predicted forced vital capacity (FVC) ( $P = .01$ ), forced expiratory volume in 1 s (FEV1) ( $P = .01$ ), and diffusing capacity of the lungs for carbon monoxide (DLCO) ( $P < .01$ ) at the time of diagnosis and were more likely to be identified following death or lung transplant ( $P = .01$ ). Our experience demonstrates delays in diagnosis and case identification when relying on passive surveillance methods. Enhanced public health surveillance systems can improve the early detection of occupational lung disease and inform future prevention policies.

**Honn A, Okut H, Lu KL, Bowen C, Chenault M, and Ablah E. Building the worksite wellness foundation infrastructure: a critical component of the WorkWell KS strategic framework. *Journal of Occupational & Environmental Medicine*. 2023; 65(10):841-845.**

<https://doi.org/10.1097/JOM.0000000000002917>

**Abstract:** **OBJECTIVE:** Workplace health programs can be ineffective, and changes are likely to be temporary without first establishing a wellness infrastructure. This study sought to determine whether attending a WorkWell KS Building the Worksite Wellness Foundation (Foundation) workshop enabled worksites to develop this infrastructure. **METHODS:** Survey data were collected from worksites before attending a workshop and approximately 1 year later. Survey items were designed to assess whether the worksite was implementing best practices. **RESULTS:** In total, 212 worksites participated in a workshop and completed both a baseline and follow-up assessments. At follow-up, more worksites reported having a wellness committee (89.6% vs 59.7%,  $P < 0.001$ ) and having wellness committee duties included in position descriptions (26.2% vs 6.4%,  $P < 0.001$ ). **CONCLUSIONS:** This study suggests that

Foundation workshops can support worksites' implementation of best practices to establish worksite wellness infrastructure

**Ketels M, Belligh T, De Bacquer D, and Clays E. The impact of leisure-time physical activity and occupational physical activity on sickness absence. A prospective study among people with physically demanding jobs. *Scandinavian Journal of Work, Environment & Health*. 2023; 49(8):578-587.**

<https://doi.org/10.5271/sjweh.4120> [open access]

Abstract: OBJECTIVES: This prospective study aimed to investigate the relation between occupational physical activity (OPA), leisure-time physical activity (LTPA) and sickness absence (SA). A second aim was to explore the possible interaction effects between OPA and LTPA in determining SA. METHODS: The study is based on data from 304 workers in the service and manufacturing sector. Moderate-to-vigorous physical activity (MVPA) was measured by two Axivity AX3 accelerometers for 2-4 consecutive working days. Participants reported on the level of their physically demanding tasks by using a 5-item scale from the Job Content Questionnaire. Data on SA was provided by the administration departments of the participating companies during a 1 year follow-up period. We used negative binomial regression models for our statistical analysis. RESULTS: After adjusting for potential confounders, physically demanding tasks were significantly associated with a higher number of SA episodes and days. Accelerometer-assessed MVPA during leisure time but not during work was correlated with lower SA. Our results show a significant interaction effect between MVPA during work and leisure time in the sense that more MVPA during work increased the risk for SA days only among workers with low LTPA, but not among workers with moderate-to-high LTPA. CONCLUSIONS: Our results indicate that LTPA and OPA are related to opposite SA outcomes. MVPA during leisure time and work interact in their effect on SA, whereas we found no interaction effect between LTPA and self-reported physically demanding tasks in determining SA

**Lee FC, Diefendorff JM, Nolan MT, and Trougakos JP. Emotional exhaustion across the workday: person-level and day-level predictors of workday emotional exhaustion growth curves. *Journal of Applied Psychology*. 2023; 108(10):1662-1679.**

<https://doi.org/10.1037/apl0001095>

Abstract: Despite empirical findings that have established the dynamic nature of emotional exhaustion (EE), the temporal processes underlying the development of EE over meaningful spans of time have largely been ignored in research. Drawing from theories that outline the roles of resources and demands at work (Demerouti et al., 2001; Halbesleben et al., 2014; Hobfoll, 1989; ten Brummelhuis & Bakker, 2012), the present study developed and tested hypotheses pertaining to the form and predictors of workday EE trajectories. Experience sampling methodology was utilized to assess the momentary EE of 114 employees three times per day over a total of 925 days and 2,808 event-level surveys. Within-day EE growth curves (i.e., intercepts and slopes) were then derived, and the variance of these growth curve



terms was partitioned into within-person (i.e., variance in growth curve parameters across days for each person) and between-person (i.e., variance in average growth curve parameters across people) sources. Results supported an increasing pattern of EE across the workday and also demonstrated substantial between- and within-person variance in intercepts (i.e., start) and slopes (i.e., growth) over the workday. In addition, support was found for a set of resource-providing and resource-consuming predictors of EE growth curves, including customer mistreatment, social interactions with coworkers, prior evening psychological detachment, perceived supervisor support, and autonomous and controlled motivations for one's job. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

**McAden EP, Leff MS, Staley JA, Greenberg RW, Nylander-French LA, and Linnan LA. Feasibility of implementing a total worker health<sup>®</sup> intervention during the COVID-19 pandemic in small and medium businesses : results from the Carolina prosper study. *Journal of Occupational & Environmental Medicine*. 2023; 65(10):880-889.**

<https://doi.org/10.1097/JOM.0000000000002935>

**Abstract:** Objective: In response to the COVID-19 pandemic's disruptive effect on employers and workers, an interdisciplinary team launched the Carolina Promoting Safe Practices for Employees' Return study to assess the feasibility of providing tailored technical assistance to small and medium North Carolina businesses using a Total Worker Health (TWH)<sup>®</sup> approach. **Methods:** Feasibility of the approach was assessed via surveys and interviews of business representatives from four participating businesses ranging in size from 3 to 110 employees. **Results:** The TWH approach is feasible, that is, in demand, practical, and acceptable to protect and promote worker safety, health, and well-being. Potential challenges include implementation cost, difficulty engaging all employees, and difficulty accessing tailored health and safety materials in a timely manner. **Conclusions:** Additional refinement and testing of the TWH approach postpandemic with more worksites is warranted.

**Ohlin J, Liv P, Andersson M, Jarvholm B, Slunga Jarvholm L, Stjernbrandt A, et al. Occupational physical activity and resting blood pressure in male construction workers. *International Archives of Occupational & Environmental Health*. 2023; 96(9):1283-1289.**

<https://doi.org/10.1007/s00420-023-02006-2> [open access]

**Abstract:** Objective: This study investigated the association between occupational physical activity (OPA) and resting blood pressure in a cohort of Swedish construction workers. **Methods:** The final sample included 241,176 male construction workers. Occupations with low OPA were foremen and white-collar workers. The most frequent occupations in the medium OPA group were electricians, pipe workers, and machine operators, and in the high OPA group woodworkers, concrete workers, and painters. **Results:** Mixed effects models showed higher systolic and lower diastolic blood pressure with higher OPA, but the associations varied depending on the year of participation and participant age as shown by significant interaction terms (OPA\*age, OPA\*calendar year, age\*calendar year). Age-stratified linear regression analyses showed a pattern of slightly higher systolic (1.49, 95%

confidence interval: 1.08-1.90 mmHg) and lower diastolic (0.89, 95% confidence interval: 0.65-1.13 mmHg) blood pressure when comparing low with high OPA, but not among the oldest age groups. Conclusion: Despite a rather large contrast in OPA, the differences in systolic and diastolic blood pressure according to OPA were small.

**Ronchese F, Ricci F, Peccolo G, Persechino B, Rondinone BM, Buresti G, et al. Relation of the Work Ability Index to fitness for work in healthcare and public employees in a region of Northeastern Italy. *International Archives of Occupational & Environmental Health*. 2023; 96(8):1203-1210.**

<https://doi.org/10.1007/s00420-023-02001-7> [open access]

**Abstract:** Purpose: Work ability indicates an individual's capacity to match job demands according to his/her physical and mental conditions and work circumstances. Occupational physicians should take into consideration the global health status of a worker in order to correctly assess if he/she is fit for the job. The aim of this study was to verify the association between fitness for work evaluation and Work Ability Index scores, as well as individual factors (age, gender, and anthropometric characteristics) and work-related variables (job type, years of working duration). **Methods:** A cross-sectional study was conducted within the occupational health surveillance of health and public employers in the Friuli-Venezia Giulia region (2018-2022). The participants voluntarily agreed to answer the standard Work Ability Index questionnaire. Data were investigated by univariable as well as multivariable regression analysis. **Results:** The Work Ability Index of the workers included in the study (N = 6893) resulted negatively associated with age, female sex, and body mass index. It was averagely lower in nurses and assistive personnel, and the highest in medical doctors and public employers. The fitness for work assessments was also statistically related to WAI scores. The results obtained from the univariable and the multivariable analysis were consistent. **Conclusions:** The Work Ability Index is an efficient tool to measure an individual's capability to sustain job demands, and can be taken into account to produce a correct fitness for work evaluation and consequently preserve workers' health status.

**Sollerhed AC and Bringsen A. Appearance between professionalism and work-related stress among marketing employees. *Work*. 2023; 75(4):1231-1242.**

<https://doi.org/10.3233/WOR-220307> [open access]

**Abstract:** BACKGROUND: Appearance and body language are key components of non-verbal communication and play an important role in the service and marketing sector. OBJECTIVE: The aim was to explore experiences and perceptions of appearance issues related to work among employees in the marketing sector in Sweden. METHODS: Interviews were conducted with 15 marketing and communication employees (five males, ten females), at multinational companies and a university. Thematic analyses were conducted, and content was organised in two themes with sub-themes: 1. Appearance from a resource perspective (Appearance benefits; Physical activity resources; Age benefits). 2. Appearance from a demand perspective (Adaptation to gender roles; Investment in appearance; Adaptation to situation and culture).



**RESULTS:** The findings showed that appearance was perceived as a resource for professionalism, work engagement and career in various ways. Appearance-related issues were not considered on organisational work level, but employees perceived unspoken demands to look good and appropriate to represent the company brand. The employees spent a considerable amount of time, money, and effort on appearance. **CONCLUSION:** Appearance creates dualistic questions and points out several dilemmas that the individual struggle to solve, which creates stress in work. The character of unspoken demands on appearance and absent communication on organisational level make the stress-coping strategies complicated and the stress coping is mostly left for the individual to handle. A gender difference shows that compared to men, women more often experience negative stress generated by appearance-related issues in work. Education and actions at the managerial level of companies are needed

**Vitturi BK, Rahmani A, Dini G, Montecucco A, Debarbieri N, Bandiera P, et al. Work barriers and job adjustments of people with multiple sclerosis: a systematic review. Journal of Occupational Rehabilitation. 2023; 33(3):450-462.**

<https://doi.org/10.1007/s10926-022-10084-1>

**Abstract:** Purpose The aim was to carry out a systematic review dedicated to describing the work barriers and the job adjustments that are particularly sensitive to people with Multiple Sclerosis (PwMS). Methods Four electronic databases (PubMed/MEDLINE, Scopus, SciVerse ScienceDirect, and Web of Science) were searched for peer-reviewed original articles reporting the barriers at work and/or the job adjustments used by PwMS. MS must have been diagnosed according to accepted international criteria at the time of the study and/or confirmed by a doctor. No time limits were set for the search. Articles that were published in English, Italian, Spanish, French, and Portuguese were accepted. Each article was screened by three experienced and trained investigators. The protocol was registered in PROSPERO (CRD42022299994). Results The initial systematic search yielded 104,228 results, of which 49 articles provided sufficient information and were considered suitable for inclusion in the study. Overall, the studies included 30283 participants with MS. Thirteen (27.1%) studies reported on barriers to work, 14 (29.2%) addressed reasonable adjustments and 21 (43.7%) assessed both outcomes. Job characteristics are the most important barriers for PwMS. Other reported barriers concern the work environment, social relationships at work, negative work events and lack of information. PwMS are more vulnerable to the need for adjustments at the workplace, being the management of the workload the most commonly used one. Conclusions PwMS are exposed to a wide variety of work barriers and job adjustments. Future studies are still highly encouraged on the topic

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