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

***Decary S, de Wit M, Naye F, Barton JL, Fraenkel L, Li LC, Brooks P, Stacey D, Maxwell LJ, Campbell W, Hofstetter C, Voshaar M, Meara A, Christensen R, Boonen A, Suarez-Almazor ME, Meade T, March L, Jull JE, Alten R, Morgan EM, Stewart Hazlewood G, Barber CEH, Guillemin F, El-Miedany Y, Mittoo S, Robertson TW, Bartlett SJ, Singh JA, Mannion M, Nasef SI, Boel A, Adebajo A, Arnaud L, Gill TK, Moholt E, Burt J, Jayatilleke A, Hmamouchi I, Berthelsen DB, Blanco FJ, Mather K, Maharaj A, Sharma S, Caso F, Beaton D, et al. Consensus on the definitions and descriptions of the domains of the OMERACT Core Outcome Set for shared decision making interventions in rheumatology trials. *Seminars in Arthritis and Rheumatism*. 2024; 65:152381.**

<https://doi.org/10.1016/j.semarthrit.2024.152381>

Abstract: OBJECTIVE: To gain consensus on the definitions and descriptions of the domains of the Outcome Measures in Rheumatology (OMERACT) core domain set for rheumatology trials evaluating shared decision making (SDM) interventions. METHODS: Following the OMERACT Handbook methods, our Working Group (WG), comprised of 90 members, including 17 patient research partners (PRPs) and 73 clinicians and researchers, had six virtual meetings in addition to email exchanges to develop draft definitions and descriptions. The WG then conducted an international survey of its members to gain consensus on the definitions and descriptions. Finally, the WG members had virtual meetings and e-mail exchanges to review survey results and finalize names, definitions and descriptions of the domains. RESULTS: WG members contributed to developing the definitions. Fifty-two members representing four continents and 13 countries completed the survey, including 15 PRPs, 33 clinicians and 37 researchers. PRPs and clinicians/researchers agreed with all definitions and descriptions with agreements ranging from 87% to 100%. Respondents suggested wording changes to the names, definitions and descriptions to better reflect the domains. Discussions led to further simplification and clarification to address common questions/concerns about the domains. CONCLUSION: Our WG

reached consensus on the definitions and descriptions of the domains of the core domain set for rheumatology trials of SDM interventions. This step is crucial to understand each domain and provides the foundation to identify instruments to measure each domain for inclusion in the Core Outcome Measurement Set. CLINICAL SIGNIFICANCE: The current study provides consensus-based definitions and descriptions for the domains of the OMERACT core domain set for shared decision making interventions from patients/caregivers, clinicians and researchers. This is a crucial step to understand each domain and provides the foundation to identify instruments to measure each domain for inclusion in the Core Outcome Measurement Set for trials of SDM interventions

***DeSouza A, Wang D, Wong JJ, Furlan AD, Hogg-Johnson S, Macedo L, et al. Prevalence of unmet rehabilitation needs among Canadians living with long-term conditions or disabilities during the first wave of the COVID-19 pandemic. Archives of Physical Medicine and Rehabilitation. 2024; 105(2):268-279.**

<https://doi.org/10.1016/j.apmr.2023.07.010>

Abstract: OBJECTIVE: We aimed to describe the prevalence of unmet rehabilitation needs among a sample of Canadians living with long-term conditions or disabilities during the first wave of the COVID-19 pandemic. DESIGN: Cross-sectional survey. SETTING: Individuals residing in Canada during the first wave of the COVID-19 pandemic. PARTICIPANTS: Eligible participants were Canadians living with long-term conditions or disabilities, 15 years or older living in 1 of the 10 provinces or 3 territories (n=13,487). INTERVENTIONS: Not applicable. MAIN OUTCOME MEASURE: We defined unmet rehabilitation needs as those who reported needing rehabilitation (ie, physiotherapy/massage therapy/chiropractic, speech, or occupational therapy, counseling services, support groups) but did not receive it because of the COVID-19 pandemic. We calculated the national, age, gender, and province/territory-specific prevalence and 95% confidence interval of unmet rehabilitation needs. RESULTS: During the first wave of the pandemic, the prevalence of unmet rehabilitation needs among Canadians with long-term conditions or disabilities was 49.3% (95% confidence interval [CI]; 48.3, 50.3). The age-specific prevalence was higher among individuals 15-49 years old (55.6%; 95% CI [54.2, 57.1]) than those 50 years and older (46.0%; 95% CI [44.5, 47.4]). Females (53.7%; 95% CI [52.6, 54.9]) had higher unmet needs than males (44.1%; 95% CI [42.3, 45.9]). Unmet rehabilitation needs varied across provinces and territories. CONCLUSIONS: In this sample, almost 50% of Canadians living with long-term conditions or disabilities had unmet rehabilitation needs during the first wave of the COVID-19 pandemic. This suggests that a significant gap between the needs for and delivery of rehabilitation care existed during the early phase of the pandemic

***Martin Ginis KA, Sinden AR, Bonaccio S, Labbe D, Guertin C, Gellatly IR, Koch L, Ben Mortenson W, Routhier F, Basham CA, Jetha A, et al. Experiential aspects of participation in employment and mobility for adults with physical disabilities: testing cross-sectional models of contextual influences and well-being outcomes. Archives of Physical Medicine and Rehabilitation. 2024; 105(2):303-313.**

<https://doi.org/10.1016/j.apmr.2023.08.004>

Abstract: OBJECTIVE: To use structural equation modeling to test research- and theory-informed models of potential predictors and outcomes of subjective experiences of employment and mobility participation in a national sample of people with physical disabilities. DESIGN: Cross-sectional survey. SETTING: Canada. PARTICIPANTS: English or French-speaking adults with a physical impairment affecting mobility and restricting activities or participation, and who participated in employment

(n=457) or mobility (n=711) life domains. INTERVENTIONS: N/A. MAIN OUTCOME MEASURES: Participants completed standardized measures of perceived health, and employment-specific and/or mobility-specific measures of perceived abilities, social support, accessibility and policies (predictor variables); the Measure of Experiential Aspects of Participation (MeEAP) in employment and/or mobility; and standardized measures of emotional well-being, social well-being and life satisfaction (outcome variables). RESULTS: Analyses using structural equation modeling showed that in both employment and mobility domains, perceived health, abilities, social support, and accessibility were positively related to experiential aspects of participation. Participation experiences were positively related to social well-being, emotional well-being, and life satisfaction. CONCLUSIONS: Results support and extend current theorizing on participation experiences among adults with physical disabilities. Intrapersonal and environmental factors may play a role in optimizing participation experiences in employment and mobility which, in turn, may lead to better well-being and life satisfaction. These results emphasize the importance of conceptualizing participation from an experiential perspective and provide a basis for advancing theory and practice to understand and improve the participation experiences and well-being of adults living with physical disabilities

Bojic R, Todoric M, and Puljak L. Most systematic reviews reporting adherence to AMSTAR 2 had critically low methodological quality: a cross-sectional meta-research study. *Journal of Clinical Epidemiology*. 2024; 165:111210.

<https://doi.org/10.1016/j.jclinepi.2023.10.026>

Abstract: Objectives: To analyze the methodological quality and characteristics of systematic reviews (SRs) that reported they were conducted in line with the AMSTAR 2 (A MeaSurement Tool to Assess Systematic Reviews). Study design and setting: This was a cross-sectional meta-research study. We searched MEDLINE and Embase. We included full reports of SRs reporting the study was conducted, prepared, or designed in line with the AMSTAR 2. Eligible SRs were those published from January 1, 2018, until May 3, 2022. We assessed the methodological quality of the included SRs using AMSTAR 2. Results: We included a total of 45 records. There were 43 SRs and 2 SR protocols. Among them, most were SRs of interventions that included primary studies on humans. More than half had a meta-analysis. According to our overall AMSTAR 2 assessments of included SRs, 35 SRs were of critically low confidence, 7 SRs were of low confidence, and one SR was of high confidence. There were no SRs of moderate confidence. Conclusion: Even when authors indicate in their manuscripts that the SR was conducted/prepared/designed in line with the AMSTAR 2, it does not necessarily imply it is of high or even moderate confidence according to AMSTAR 2. A self-assessment with AMSTAR 2 could be required for submission and carefully checked by the editors/peer reviewers.

Ceulemans D, Moens M, Reneman M, Callens J, De Smedt A, Godderis L, et al. Biopsychosocial rehabilitation in the working population with chronic low back pain: a concept analysis. *Journal of Rehabilitation Medicine*. 2024; 56:jrm13454.

<https://doi.org/10.2340/jrm.v56.13454> [open access]

Abstract: OBJECTIVE: To identify the essential attributes of biopsychosocial rehabilitation for chronic low back pain in the working population. DESIGN: A concept analysis was conducted according to the 8-step method of Walker and Avant. This framework provides a clear concept and theoretical and operational definitions. METHODS: Five databases were searched, followed by a systematic screening. Subsequently, attributes, illustrative cases, antecedents, consequences and empirical referents were

formulated. RESULTS: Of the 3793 studies identified, 42 unique references were included. Eleven attributes were identified: therapeutic exercise, psychological support, education, personalization, self-management, participation, follow-up, practice standard, goal-setting, social support, and dietary advice. Subsequently, illustrative cases were described. Antecedents, such as motivation, preparedness and a multidisciplinary team, were found, together with consequences such as decreased pain, less sick-leave and increased function and work status. Finally, examples of empirical referents were given. CONCLUSION: This study identified the attributes that are necessary to develop biopsychosocial rehabilitation intervention programmes for chronic low back pain. The defined concept of biopsychosocial rehabilitation for chronic low back pain may serve as a solid base to further develop and apply interventions. Future research should focus on the objectification of biopsychosocial rehabilitation and conceptualization regarding how personalization is done

Griswold D, Learman K, Ickert E, Clewley D, Donaldson MB, Wilhelm M, et al. Comparing dry needling or local acupuncture to various wet needling injection types for musculoskeletal pain and disability. A systematic review of randomized clinical trials. Disability and Rehabilitation. 2024; 46(3):414-428.

<https://doi.org/10.1080/09638288.2023.2165731>

Abstract: Purpose: Systematically evaluate the comparative effectiveness of dry needling (DN) or local acupuncture to various types of wet needling (WN) for musculoskeletal pain disorders (MPD). Methods: Seven databases (PubMed, PEDro, SPORTDiscus, CINAHL, Scopus, Embase, and Cochrane Central Register of Controlled Trials) were searched following PROSPERO registration. Randomized clinical trials were included if they compared DN or local acupuncture with WN for MPD. Primary outcomes were pain and/or disability. The Revised Cochrane Collaboration tool (RoB 2.0) assessed the risk of bias. Results: Twenty-six studies were selected. Wet Needling types included cortisone (CSI) (N = 5), platelet-rich plasma (PRP) (N = 6), Botox (BoT) (N = 3), and local anesthetic injection (LAI) (N = 12). Evidence was rated as low to moderate quality. Results indicate DN produces similar effects to CSI in the short-medium term and superior outcomes in the long term. In addition, DN produces similar outcomes compared to PRP in the short and long term and similar outcomes as BoT in the short and medium term; however, LAI produces better pain outcomes in the short term. Conclusion: Evidence suggests the effectiveness of DN to WN injections is variable depending on the injection type, outcome time frame, and diagnosis. In addition, adverse event data were similar but inconsistently reported. PROSPERO Registration: 2019 CRD42019131826 Implications for rehabilitation Dry needling produces similar effects for pain and disability in the short and medium term compared to cortisone, Botox, and platelet-rich plasma injections. Local anesthetic injection may be more effective at reducing short-term pain. Long-term effects on pain and disability are similar between dry needling and platelet-rich plasma injections, but dry needling may produce better long-term outcomes than cortisone injections. The available adverse event data is similar between dry and wet needling. The conclusions from this study may be beneficial for patients and clinicians for considering risk and cost benefit analyses.

Hammig O. Burnout and disengagement at work among health professionals: interrelations and associations with stress indicators and job resources. *Journal of Occupational & Environmental Medicine*. 2024; 66(2):128-134.

<https://doi.org/10.1097/JOM.0000000000003005> [open access]

Abstract: Objective: The aim of the study is to explore common risk and protective factors of burnout and disengagement at work among healthcare workers. Methods: Cross-sectional survey data of 1232 health professionals and employees of five public hospitals and rehabilitation clinics collected in 2015/16 in German-speaking Switzerland were used and analyzed. Different stress measures and job resources were studied as predictors of burnout and work engagement. Results: Burnout was found to be largely explained by work stress ($\beta = 0.22$) and particularly by general stress ($\beta = 0.54$) whereas work engagement was only marginally determined by these stress indicators. Job autonomy or supervisor support on the other hand had no protective effect on burnout at all but a fairly strong predictive effect on work engagement ($\beta = 0.27/0.23$). Conclusion: Burnout turned out to be mainly stress-induced whereas work engagement emerged largely as a result of job autonomy and supervisor support.

Jeong S and Lee BH. The moderating effect of work-related musculoskeletal disorders in relation to occupational stress and health-related quality of life of construction workers: a cross-sectional research. *BMC Musculoskeletal Disorders*. 2024; 25(1):147.

<https://doi.org/10.1186/s12891-024-07216-4> [open access]

Abstract: Background: This study aimed to investigate work-related musculoskeletal disorders (WMSDs), occupational stress, and health-related quality of life (HRQoL); identify the factors that affect HRQoL; and investigate the moderating effects of WMSDs on occupational stress and HRQoL. Methods: The participants were construction workers who had worked in the construction industry for over three months. A total of 178 construction workers voluntarily participated and anonymously completed the musculoskeletal symptoms questionnaire, the Korean Occupational Stress Scale, short-form 36. The moderation effect of WMSDs on occupational stress and HRQoL were analyzed by Haye's Process Macro Model. Results: The results of the study showed that 96 subjects (53.9%) had WMSDs, and the most common pain site was the lower back (33.3%). The group with WMSDs had higher occupational stress than did the group without WMSDs ($p < 0.01$). Compared with the group without WMSDs, the group with WMSDs displayed significant differences in HRQoL ($p < 0.001$). Furthermore, the factor affecting HRQoL was WMSDs ($p < 0.001$). In the impact of occupational stress on HRQoL, WMSDs had a significant moderating effect ($p < 0.001$). Conclusion: The results of this study indicate that construction workers' WMSDs significantly impact occupational stress and HRQoL, and WMSDs have a significant moderating effect on the relationship between occupational stress and HRQoL. Therefore, to improve the HRQoL of workers in the construction industry, it is necessary to develop methods to reduce occupational stress and prevent and treat WMSDs.

Kohn L, Dauvrin M, Detollenaere J, Primus-de Jong C, Maertens de Noordhout C, Castanares-Zapatero D, et al. Long COVID and return to work: a qualitative study. *Occupational Medicine*. 2024; 74(1):29-36.

<https://doi.org/10.1093/occmed/kqac119>

Abstract: BACKGROUND: The COVID-19 pandemic has given rise to an increasing number of patients with 'long COVID'. Long COVID is the persistence of symptoms for weeks or months after an infection

by SARS-CoV-2. It often impacts on the professional life of affected people. **AIMS:** The aim of this study is to understand the experiences and needs of people with long COVID in relation to their return to work. **METHODS:** A qualitative study, combining individual interviews and online forum discussions, was performed early 2021, as part of a larger mixed method study on the needs of long COVID patients in Belgium. **RESULTS:** One hundred and thirty-four people participated in the study. Participants described various clinical symptoms precluding their return to work. They also face sceptical reactions from employers and colleagues and a lack of support from the social welfare system to facilitate their return to work. These barriers have various impacts, including psychological ones, likely to compromise the professional future of long COVID patients. **CONCLUSIONS:** While the analysis of patients' experiences shows variation in long COVID patients' experiences with return to work, it may help occupational physicians and healthcare practitioners to better take up their crucial role in the return to work of long COVID patients, including raising employers' and colleagues' awareness of the specific difficulties related to long COVID

Kuhlmann R and Sub S. The dynamic interplay of job characteristics and psychological capital with employee health: a longitudinal analysis of reciprocal effects. *Journal of Occupational Health Psychology*. 2024; 29(1):14-29.

<https://doi.org/10.1037/ocp0000368>

Abstract: The dynamic development of employee health is increasingly addressed by occupational health scholarships. Based on the job demands-resources theory, this study examines reciprocal relationships among job resources, job demands, psychological capital (PsyCap), work engagement, and burnout over time. We hypothesize that PsyCap, job resources, and work engagement are part of a reciprocal gain cycle that is based on static levels and changes in these variables. Further, we assume that PsyCap has multiplicative buffering and boosting relationships with job demands and burnout. We test our hypotheses using latent change score modeling with data from 661 employees surveyed over 3 consecutive months. The results reveal a complex reciprocal cycle between PsyCap, work engagement, and job resources. However, PsyCap does not interact with the reciprocal relationship between job demands and burnout, as it is directly reciprocally related to burnout and certain types of job demands. Against the background of these results, our study contributes to research and practice on the role of personal resources, specifically PsyCap, by identifying individual differences in change patterns and highlighting the importance of considering individual differences and temporal aspects in the context of occupational health. (PsycInfo Database Record (c) 2024 APA, all rights reserved)

Nascimento JMR, Bispo LGM, and Silva JMN. Risk factors for work-related musculoskeletal disorders among workers in Brazil: a structural equation model approach. *International Journal of Industrial Ergonomics*. 2024; 99:103551.

<https://doi.org/10.1016/j.ergon.2024.103551>

Parsons V, Wainwright E, Karanika-Murray M, Muiry G, and Demou E. The impact of COVID-19 on research into work and health. *Occupational Medicine*. 2024; 74(1):8-14.

<https://doi.org/10.1093/occmed/kqac080> [open access]

Abstract: **BACKGROUND:** The global coronavirus (Covid-19) pandemic created a profound disruption to the delivery of planned scientific research with unknown immediate and potentially longer-term impacts. **AIMS:** We explored researchers' experiences of the impact of the pandemic on the continued

development and delivery of research into work and health, and on research infrastructure in this field. **METHODS:** A cross-sectional study. **RESULTS:** Thirty-three questionnaires were completed, representing a response rate of 15%. Sixty-one per cent of respondents were female, the majority (78%) had over 11 years of research experience and 76% worked mainly in academia. Most respondents (88%) were able to progress with research during the pandemic. A small proportion (4%) had studies paused or suspended due to the pandemic, while a larger proportion (19%) had research staff redeployed to assist with other studies or furloughed. Respondents described a range of emerging practical and logistical issues for research into work and health during the pandemic. Some benefited from increased opportunities to collaborate on new multidisciplinary studies, opportunities to engage participants in work and health research, and more flexible and inclusive work practices. Others experienced challenges that had an adverse impact, such as hampering research delivery (e.g. barriers to participant screening and intervention delivery), poor (home) working environments, reduced team cohesion and isolation. A range of future priorities for research was highlighted. **CONCLUSIONS:** We describe lessons learned and opportunities that can be used to support or further research activities in the field of work and health research in the future

Sherman BW, Stiehl E, Wator C, and Pratap PL. Why don't employees participate in well-being programs? A research-informed systems-based model. *Journal of Occupational & Environmental Medicine*. 2024; 66(2):156-160.

<https://doi.org/10.1097/JOM.0000000000003012>

Abstract: **OBJECTIVE:** Employee nonparticipation in well-being programs is common, but not well understood. Development of a systems-based framework to characterize reasons for nonparticipation can inform efforts to enhance engagement. **METHODS:** Following literature review and building on previous research, a systems-based model was developed to contextualize participation barriers. **RESULTS:** Well-being program nonparticipation is more frequent among low-wage workers as well as minority subpopulations. Contributors include employer factors, such as inequitable benefits design, and employee factors, such as lack of perceived relevance, barriers to access, and lower prioritization of personal health needs. **CONCLUSIONS:** A systems-based approach to evaluating well-being program nonparticipation can help identify factors contributing to employee nonparticipation and lead to targeted policy and practice changes that encourage greater employee engagement

Smith LC. Reviews and reviewing: approaches to research synthesis. An Annual Review of Information Science and Technology (ARIST) paper. *Journal of the Association for Information Science and Technology*. 2024; 75(3):245-267.

<https://doi.org/10.1002/asi.24851> [open access]

Abstract: Reviews have long been recognized as among the most important forms of scientific communication. The rapid growth of the primary literature has further increased the need for reviews to distill and interpret the literature. This review on Reviews and Reviewing: Approaches to Research Synthesis encompasses the evolution of the review literature, taxonomy of review literature, uses and users of reviews, the process of preparing reviews, assessment of review quality and impact, the impact of information technology on the preparation of reviews, and research opportunities for information science related to reviews and reviewing. In addition to providing a synthesis of prior research, this review seeks to identify gaps in the published research and to suggest possible future research directions.

Spetz M, Natt Och Dag Y, Li H, Nwaru C, Santosa A, Nyberg F, et al. The sociodemographic patterning of sick leave and determinants of longer sick leave after mild and severe COVID-19: a nationwide register-based study in Sweden. *European Journal of Public Health*. 2024; 34(1):121-128.

<https://doi.org/10.1093/eurpub/ckad191> [open access]

Abstract: Background: Studies on sociodemographic differences in sick leave after coronavirus disease 2019 (COVID-19) are limited and research on COVID-19 long-term health consequences has mainly addressed hospitalized individuals. The aim of this study was to investigate the social patterning of sick leave and determinants of longer sick leave after COVID-19 among mild and severe cases. **Methods:** The study population, from the Swedish multi-register observational study SCIFI-PEARL, included individuals aged 18-64 years in the Swedish population, gainfully employed, with a first positive polymerase chain reaction (PCR) test for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from 1 January 2020 until 31 August 2021 (n = 661 780). Using logistic regression models, analyses were adjusted for sociodemographic factors, vaccination, prior sick leave, comorbidities and stratified by hospitalization. **Results:** In total, 37 420 (5.7%) individuals were on sick leave due to COVID-19 in connection with their first positive COVID-19 test. Individuals on sick leave were more often women, older, had lower income and/or were born outside Sweden. These differences were similar across COVID-19 pandemic phases. The highest proportion of sick leave was seen in the oldest age group (10.3%) with an odds ratio of 4.32 (95% confidence interval 4.18-4.47) compared with the youngest individuals. Among individuals hospitalized due to COVID-19, the sociodemographic pattern was less pronounced, and in some models, even reversed. The intersectional analysis revealed considerable variability in sick leave between sociodemographic groups (range: 1.5-17.0%). **Conclusion:** In the entire Swedish population of gainfully employed individuals, our findings demonstrated evident sociodemographic differences in sick leave due to COVID-19. In the hospitalized group, the social patterning was different and less pronounced.

Tufanaru C, Surian D, Scott AM, Glasziou P, and Coiera E. The 2-week systematic review (2weekSR) method was successfully blind-replicated by another team: a case study. *Journal of Clinical Epidemiology*. 2024; 165:111197.

<https://doi.org/10.1016/j.jclinepi.2023.10.013>

Abstract: **OBJECTIVE:** To assess the replicability of a 2-week systematic review (index 2weekSR) created with the assistance of automation tools using the fidelity method. **METHODS:** A Preferred Reporting Items for Systematic reviews and Meta-Analyses compliant SR protocol was developed based on the published information of the index 2weekSR study. The replication team consisted of three reviewers. Two reviewers blocked off time during the replication. The total time to complete tasks and the meta-analysis results were compared with the index 2weekSR study. Review process fidelity scores (FSs) were calculated for review methods and outcomes. Barriers to completing the replication were identified. **RESULTS:** The review was completed over 63 person-hours (11 workdays/15 calendar days). A FS of 0.95 was achieved for the methods, with 3 (of 8) tasks only partially replicated, and an FS of 0.63 for the outcomes, with 6 (of 7) only partially replicated and one task was not replicated. Nonreplication was mainly caused by missing information in the index 2weekSR study that was not required in standard reporting guidelines. The replication arrived at the same conclusions as the original study. **CONCLUSION:** A 2weekSR study was replicated by a small

team of three reviewers supported by automation tools. Including additional information when reporting SRs should improve their replicability

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