

IWH Research Alert
October 22, 2021

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***Petkovic J, Umaefulam V, Wattiaux A, Bartels C, Barnabe C, Greer-Smith R, Hofstetter C, Maxwell L, Shea B, Barton J, Lee AYS, Humphreys J, Beaton D, and Tugwell. Development of an extension of the OMERACT Summary of Measurement Properties table to capture equity considerations: SOMP-Equity. Seminars in Arthritis and Rheumatism. 2021; [epub head of print].**

<https://doi.org/10.1016/j.semarthrit.2021.09.005>

Abstract: OBJECTIVE: To develop an equity extension of the OMERACT Summary of Measurement Properties (SOMP) Table, SOMP Equity to describe whether a patient reported outcome measure (PROM) works well among patients of diverse languages and cultures, education levels, and other population characteristics. METHODS: We used the PROGRESS-Plus framework to categorize equity characteristics assessed in trials of PROM. PROGRESS refers to Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socioeconomic status, and Social Capital, while the 'plus' captures additional characteristics, such as age. We pilot tested our SOMP Equity Extension using the Health



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Assessment Questionnaire (HAQ) as a prototypical PROM.
RESULTS: The SOMP Equity Extension retains the same columns as the original OMERACT SOMP (domain match, feasibility, construct validity, test-retest reliability, longitudinal construct validity, clinical trial discrimination, thresholds of meaning) but uses the PROGRESS-Plus characteristics as rows. We found several examples of studies of the HAQ which had assessed one or more PROGRESS-Plus characteristics. CONCLUSIONS: The most commonly reported equity considerations were related to language. OMERACT Equity virtual meeting participants were polled and they indicated that the SOMP Equity Extension is useful for highlighting and tracking equity considerations for OMERACT Core Outcome Measurement Instruments

***Shahidi FV, Smith PM, Oudyk J, and Gignac MAM. Longitudinal reciprocal relationships between the psychosocial work environment and burnout. Journal of Occupational and Environmental Medicine. 2021; [epub head of print].**
<https://doi.org/10.1097/JOM.0000000000002396>

***Smith PM and Oudyk J. Assessing the psychometric properties of the Guarding Minds @ Work questionnaire recommended in the Canadian Standard for Psychological Health and Safety in the Workplace. Quality & Quantity. 2021; [epub head of print].**
<https://doi.org/10.1007/s11135-021-01269-6> [open access]

Abstract: This study examines the item and dimension distribution and factorial reliability and validity of the GM@W questionnaire for assessing the 13 dimensions of the work environment outlined in The Canadian National Standard for Psychological Health and Safety in the Workplace (The Standard). Methods An internet survey of 1,006 Ontario workers was conducted between February 10th and March 5th, 2020. Respondents had to be employed in a workplace with five or more employees. The survey included the 65 items from the GM@W questionnaire, and questions to assess sociodemographic characteristics and employment arrangements. Analyses examined the distribution of scores for items and for overall dimensions. A confirmatory factor analysis (CFA) examined the relationship between the 13 proposed dimensions and each of the 65 questions, using only respondents with complete information (N = 900). Results Low levels



of missing responses were observed, although 14 of the 65 items had potential ceiling effects. CFA analyses demonstrated poor fit for the conceptual model linking the 13 dimensions of The Standard to the 65-items. High correlations between dimensions were also noted. The GM@W questionnaire displayed poor discriminant in measuring the specific dimensions proposed in The Standard. Conclusions Our results suggest the GM@W survey is unable to isolate the proposed dimensions of the psychosocial work environment as outlined in The Standard. These limitations are important, as workplaces using the GM@W survey will not be able to identify dimensions of the work environment which require attention or assess changes in particular dimensions over time.

Alhainen M, Harma M, Pentti J, Ervasti JM, Kivimaki M, Vahtera J, et al. Sleep duration and sleep difficulties as predictors of occupational injuries: a cohort study. Occupational and Environmental Medicine. 2021; [epub head of print].

<https://doi.org/10.1136/oemed-2021-107516>

Abstract: Study objectives: To examine the association between sleep duration and sleep difficulties with different types and causes of workplace and commuting injuries. Methods: The data were derived from the Finnish Public Sector study including 89.543 participants (178.309 person-observations). Participants reported their sleep duration and sleep difficulties between 2000 and 2012. These were linked to occupational injury records from the national register maintained by the Federation of Accident Insurance Institutions. Risk of injuries was followed up 1 year after each study wave. Logistic regression analysis with generalised estimating equations (GEEs) was used to examine the association between sleep duration/difficulties and risk of injuries, and multinomial logistic regression with GEE was used to examine the association with injury types and causes. Results: Both sleep duration and difficulties were associated with injuries. Employees with short sleep (=6.5 hours) had 1.07-fold odds of workplace injuries (95% CI 1.00 to 1.14) and 1.14 times higher odds of commuting injuries (95% CI 1.04 to 1.26) compared with employees with normal sleep duration. For employees with disturbed sleep, the corresponding ORs were 1.09-fold (95% CI 1.02 to 1.17) and 1.14-fold (95% CI 1.04 to 1.26) compared with those without sleep difficulties, respectively. The risk of commuting



injuries was higher among those who had difficulty in falling asleep (OR 1.29, 95% CI 1.07 to 1.55), woke up too early (OR 1.11, 95% CI 1.00 to 1.23) or had non-restorative sleep (OR 1.18, 95% CI 1.05 to 1.33). Conclusions: Short sleep duration and sleep difficulties are associated with slightly increased risk of workplace and commuting injuries.

Azevedo LM, Chiavegato LD, Carvalho CRF, Braz JR, Nunes Cabral CM, and Padula RS. Are blue-collar workers more physically active than white-collar at work? Archives of Environmental & Occupational Health. 2021; 76(6):338-347.

<https://doi.org/10.1080/19338244.2020.1835796>

Abstract: This study evaluates the physical activity level at work and leisure time of white-collar and two groups of blue-collar workers from the latex glove industry and the association of physical activity level and musculoskeletal complains and work ability. The workers' sociodemographic and behavioral health characteristics, work ability index, musculoskeletal complains, total step count and caloric expenditure for three consecutive days, were assessed. The blue-collar workers that move most from the workstation (longD) were more physically active at work compared to white-collar and blue-collar that moved close the workstation (shortD). But in leisure-time the result is reversed, white-collar and blue-collar groups were significantly more active. There was no association between physical activity level and musculoskeletal pain intensity and work ability. All the groups of workers exhibited satisfactory physical activity levels, but only blue-collar (longD) were more physically active (10,000 steps per day)

Barello S, Caruso R, Palamenghi L, Nania T, Dellafiore F, Bonetti L, et al. Factors associated with emotional exhaustion in healthcare professionals involved in the COVID-19 pandemic: an application of the job demands-resources model. International Archives of Occupational & Environmental Health. 2021; 94(8):1751-1761.

<https://doi.org/10.1007/s00420-021-01669-z> [open access]

Abstract: Purpose: The purpose of the present cross-sectional study is to investigate the role of perceived COVID-19-related organizational demands and threats in predicting emotional



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exhaustion, and the role of organizational support in reducing the negative influence of perceived COVID-19 work-related stressors on burnout. Moreover, the present study aims to add to the understanding of the role of personal resources in the Job Demands-Resources model (JD-R) by examining whether personal resources—such as the professionals' orientation towards patient engagement—may also strengthen the impact of job resources and mitigate the impact of job demands. Methods: This cross-sectional study involved 532 healthcare professionals working during the COVID-19 pandemic in Italy. It adopted the Job-Demands-Resource Model to study the determinants of professional's burnout. An integrative model describing how increasing job demands experienced by this specific population are related to burnout and in particular to emotional exhaustion symptoms was developed. Results: The results of the logistic regression models provided strong support for the proposed model, as both Job Demands and Resources are significant predictors (OR = 2.359 and 0.563 respectively, with $p < 0.001$). Moreover, healthcare professionals' orientation towards patient engagement appears as a significant moderator of this relationship, as it reduces Demands' effect (OR = 1.188) and increases Resources' effect (OR = 0.501). Conclusions: These findings integrate previous findings on the JD-R Model and suggest the relevance of personal resources and of relational factors in affecting professionals' experience of burnout.

Gaiser MG, Buche JL, Wayment CC, Schoebel V, Smith JE, Chapman SA, et al. A systematic review of the roles and contributions of peer providers in the behavioral health workforce. American Journal of Preventive Medicine. 2021; 61(4):e203-e210.

<https://doi.org/10.1016/j.amepre.2021.03.025>

Abstract: CONTEXT: Peer providers with lived experiences of mental health and substance use are a growing component of the workforce responsible for the prevention and treatment of behavioral health disorders. This systematic literature review aims to better define the roles of peers and their unique contributions to behavioral health care. EVIDENCE ACQUISITION: Researchers searched MEDLINE, CINAHL Complete, PsycINFO, Cochrane Central, and Scopus databases for studies published between January 1, 2013 and April



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3, 2020. Studies were included if they (1) were experimental or observational studies, (2) included an adult population of people with a behavioral health disorder, and (3) used paid peer providers in addition to traditional behavioral health services. Researchers extracted sample demographics, intervention characteristics, outcome data, and significant associations from studies that met inclusion criteria and assessed the trends in these data in May 2020. EVIDENCE SYNTHESIS: A total of 23 articles assessing peer-provided services were included. Peers were employed most frequently in mental healthcare roles in the Department of Veterans Affairs, hospital, and community health facilities. A total of 14 studies observed significant clinical improvements in participants' social functioning, quality of life, patient activation, and behavioral health. A majority of studies involved the supervision of peers and required peers to have completed training in service delivery. CONCLUSIONS: Peers are effective providers of behavioral health treatment and relapse prevention services who encourage recovery through resilience building, empowerment, and self-advocacy. There remains a need for more evidence-based interventions on the efficacy of peers in substance use disorder treatment and the impact of formalized certification and training opportunities

Goolsby C, Lala V, Gebner R, Dacuyan-Faucher N, Charlton N, and Schuler K. Emergency physician risk of occupational mortality: a scoping review. Journal of the American College of Emergency Physicians open. 2021; 2(5):e12554.

<https://doi.org/10.1002/emp2.12554> [open access]

Abstract: BACKGROUND: Occupational hazards for emergency physicians are widely known, but the risk of work-related mortality is not clear. The COVID-19 pandemic generated new concerns about the risk of occupational mortality, particularly in the setting of inadequate personal protective equipment. The perception of increased risk generated ethical concerns regarding emergency physicians' duty to treat and employers' duty to protect their employees. We performed this scoping review to define prepandemic emergency physician occupational mortality. METHODS: We performed a scoping review of peer-reviewed publications from PubMed, EMBASE, and Cochrane databases in September 2020. RESULTS: Of the 747 unique articles identified in the 3 databases, 1



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article met inclusion criteria and was included in the final analysis.
CONCLUSION: The baseline risk of occupational mortality for emergency physicians is not established in the scientific literature. Further study is needed to quantify risk, as this information would be useful to shape policy and ethical considerations

Goss KD, Abramson N, Ioerger M, Reyes AC, and Turk MA. A systematic scoping study exploring opioid use across a variety of disability conditions. Disability and Health Journal. 2021; 14(4):101106.

<https://doi.org/10.1016/j.dhjo.2021.101106>

Abstract: BACKGROUND: Opioid use experiences among people with disability (PWD) as a group has not been clearly articulated in the current literature, despite links between pain and measures of disability. OBJECTIVE: To conduct a systematic search and scoping study examining the characteristics of current literature focused on opioid use among PWD. METHODS: Four databases were queried (i.e., Medline, PsycINFO, Embase, and CINAHL) for peer-reviewed, empirical, English-language, journal articles focused on long-term opioid use among PWD. Collected data points included: disability details (specific condition, onset of disability), opioid details (category of opioid use, and specified substance), study details, and design. RESULTS: A total of 196 articles were included, with 83.7% published since 2000 largely from the US. The majority of articles (70.4%) focused on the use of opioids as medical treatment, with fewer articles focusing on recreational opioid use or substance use disorders. The majority of included sources (73%) focused on opioid use in acquired conditions; neuropathic pain (21.9%) and attention deficit hyperactivity disorder (20.4%) were the most commonly studied. Differences were observed in the distribution of disability conditions across category of opioid use and study design classification; 73.5% were considered observational in design. CONCLUSIONS: The varied representation of disability conditions, and differences across opioid use category and study design classification point to a complicated relationship between opioid use and disability. The present research portfolio would benefit from research matching informational needs of a specific disability area or opioid use category to provide the evidence necessary to advance current knowledge and promote inclusion in national agendas



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Lancet EA, Borrell LN, Holbrook J, and Morabia A. Using marginal structural models to analyze randomized clinical trials with non-adherence and lost to follow up. *Annals of Epidemiology*. 2021; 63:22-28.

<https://doi.org/10.1016/j.annepidem.2021.07.001>

Abstract: BACKGROUND: In the presence of non-adherence and lost to follow up, results of an Intention to Treat (ITT) analysis may be biased as it is measuring the effect of assignment rather than the effect of treatment. Given that Marginal Structural Models (MSMs) adjust for such issues, this study examines the use of MSMs to assess the validity of ITT analyses in the presence of non-adherence and lost to follow up in an existing randomized clinical trial on asthma treatment. METHODS: Inverse probability weights were obtained from a pooled logistic regression assessing the probability of staying on assigned treatment (adherence) and of remaining uncensored (censored) for subjects at each visit by treatment arm. Weights were then pooled into a MSM analysis using a Poisson generalized estimating equation with an independent correlation matrix.

RESULTS: Out of 488 participants, 174 (36%) did not adhere to the baseline assignment and 85 (17%) were lost to follow up by the end of the study. The adjusted relative risks (RR), and 95% confidence intervals (CI), obtained from the MSMs (theophylline vs. montelukast; RR=1.24; 95% CI: 0.83,1.84; theophylline vs. placebo: RR=1.01; 95% CI: 0.70,1.48; and montelukast vs. placebo: RR=0.83; 95% CI: 0.57,1.19) were nearly identical to that of the ITT analysis (theophylline vs. montelukast: RR=1.22; 95% CI: 0.82,1.86; theophylline vs. placebo: RR=0.99; 95% CI: 0.67,1.50; and montelukast vs. placebo: RR=0.82; 95% CI: 0.55,1.21).

CONCLUSION: Concordance between the results of ITT and MSMs indicate adherence and censoring may not invalidate ITT analysis. However, no adherence or censorship thresholds currently exist to assist researchers in determining when MSMs may be superior to ITT in the analysis of clinical trials with non-adherence or censorship issues, and therefore, MSMs should be conducted as a sensitivity analysis to the ITT approach in clinical trials

Namian M, Taherpour F, Ghasvand E, and Turkan Y. Insidious safety threat of fatigue: investigating construction workers' risk of accident due to fatigue. *Journal of Construction Engineering*



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and Management. 2021; 147(12):04021162.

[https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0002180](https://doi.org/10.1061/(ASCE)CO.1943-7862.0002180)

Omatule Onubi H, Yusof N, and Sanusi Hassan A. Perceived COVID-19 safety risk and safety behavior on construction sites: role of safety climate and firm size. Journal of Construction Engineering and Management. 2021; 147(11):04021153.

[https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0002201](https://doi.org/10.1061/(ASCE)CO.1943-7862.0002201)

Prudenzi A, Graham CD, Clancy F, Hill D, O'Driscoll R, Day F, et al. Group-based acceptance and commitment therapy interventions for improving general distress and work-related distress in healthcare professionals: a systematic review and meta-analysis. Journal of Affective Disorders. 2021; 295:192-202.

<https://doi.org/10.1016/j.jad.2021.07.084>

Abstract: Background: A large proportion of the healthcare workforce reports significant distress and burnout, which can lead to poor patient care. Several psychological interventions, such as Acceptance and Commitment Therapy (ACT), have been applied to improve general distress and work-related distress in healthcare professionals (HCPs). However, the overall efficacy of ACT in this context is unknown. This review and meta-analysis aimed to: 1) test the pooled efficacy of ACT trials for improving general distress and reducing work-related distress in HCPs; 2) evaluate the overall study quality and risk of bias; and 3) investigate potential moderators of intervention effectiveness. Method: Four databases (Ovid MEDLINE, EMBASE, PsycINFO, CINHALL) were searched, with 22 pre-post design and randomised controlled trial (RCTs) studies meeting the inclusion criteria. 10 RCTs studies were included in the meta-analysis. Results: Two random effects meta-analyses on general distress and work-related distress found that ACT outperformed pooled control conditions with a small effect size for general distress at post-intervention ($g = 0.394$, CIs [.040; .748]) and for work-related distress ($g = 0.301$, CIs [.122; .480]) at follow-up. However, ACT was more effective than controls. The number of treatment sessions was a moderator of intervention efficacy for general distress. ACT process measures (psychological flexibility) did not show significantly greater improvements in those who received the intervention. Limitations: The methodological quality of studies was poor and needs to be



improved. Conclusions: Overall, ACT interventions are effective in improving general distress and work-related distress in HCPs. These findings have implications for policymakers, healthcare organisations and clinicians.

Riopel C, Lavigne-Robichaud M, Trudel X, Milot A, Gilbert-Ouimet M, Talbot D, et al. Job strain and incident cardiovascular disease: the confounding and mediating effects of lifestyle habits. An overview of systematic reviews. Archives of Environmental & Occupational Health. 2021; 76(6):330-337.

<https://doi.org/10.1080/19338244.2020.1828244>

Abstract: This overview of systematic reviews (SR) aims to determine how the potential confounding and/or mediating effects of lifestyle habits were taken into consideration in SR examining the job strain effect on cardiovascular disease (CVD) incidence. Thirteen SR were identified. Lifestyle habits were often considered as confounders (n = 8). Authors reported that the job strain and CVD association remained after adjusting for lifestyle habits (n = 6); discussed lifestyle habits as potential mediators (n = 8) and postulated a total effect underestimation due to over-adjustment (n = 4). None investigated the magnitude of this bias. The effect of job strain on CVD is independent of lifestyle habits, supporting its causal effect on CVD. Lifestyle habits are also potential mediators. The current practice of adjusting for lifestyle habits can therefore lead to an underestimation of the total effect. Research using meditation methods is needed.

Seil K, Yu S, Brackbill R, Alper H, and Maqsood J. Effects of 9/11-related injury on retirement patterns among World Trade Center Health Registry enrollees. American Journal of Industrial Medicine. 2021; 64(10):873-880.

<https://doi.org/10.1002/ajim.23288>

Abstract: Background: Many survivors of the 9/11/2001 terrorist attacks in New York City sustained injuries. The aim of this study was to understand how 9/11-related injuries affected retirement patterns of World Trade Center Health Registry enrollees. Methods: The study included enrollees who participated in the 2017 Health & Quality of Life Survey, focused on 9/11-related injuries and quality of life, and the 2017-2018 Health & Employment Survey, focused on retirement and employment (N = 3535). Using Cox proportional hazards and



logistic regression modeling, we calculated the risk of retiring at earlier ages and the odds of retirees working again, controlling for relevant covariates. Results: Results showed that 9/11-related injuries did affect retirement patterns. Injured enrollees were at greater risk of retiring at younger age compared to non-injured enrollees. Compared to more severely injured retirees, non-injured and less severely injured retirees were significantly more likely to work again postretirement. Our results suggested that being injured on 9/11 was associated with retirement, meaning that if the injury had not occurred, the individual may have continued working longer. Conclusions: The need to retire earlier than planned could be addressed with employer and societal changes. Employers should consider making accommodations for those impacted by 9/11 a priority, as it is imperative for those who were injured on 9/11 to have the ability to work to support their physical, mental, and financial well-being.

Spyropoulos N, Mousteri V, Regan L, O' Sullivan M, Thompson K, Juniper B, et al. Developing a novel composite index for monitoring occupational health and wellbeing: a case study in the rail sector in Great Britain. *Safety Science*. 2021; 144:105446. <https://doi.org/10.1016/j.ssci.2021.105446>

Taylor SG, Butts MM, Cole MS, and Pounds T. Are you sick? Understanding the effects of coworker presenteeism on workplace mistreatment. *Journal of Applied Psychology*. 2021; 106(9):1299-1313. <https://doi.org/10.1037/apl0000966>; [10.1037/apl0000966](https://doi.org/10.1037/apl0000966) [open access]

Abstract: As organizations across the United States resume activities even as the novel coronavirus endures, millions of employees could come into contact with sick coworkers and become exposed to the 2019 novel coronavirus (COVID-19). Unfortunately, little is known about how sick individuals might be treated at work. Because working with a sick coworker may simultaneously evoke concerns about oneself and one's ailing colleague, we propose dual mechanisms of self-concern and coworker-orientation to explain the relationship between coworker presenteeism (i.e., a coworker attends work while ill) and interpersonal mistreatment. Across two studies with



employees working face-to-face during the pandemic, our findings showed that coworker presenteeism decreases subsequent workplace mistreatment through coworker-orientation. Moreover, we found that coworker presenteeism increases mistreatment through self-concern when employees experience higher workloads. Implications and future research directions are discussed.

Widiss DA. The hidden gender of gender-neutral paid parental leave: examining recently-enacted laws in the United States and Australia. Comparative Labor Law & Policy Journal. 2021; 41(3):723-752.

[doi unavailable as of October 22, 2021]

***IWH authored publications.**



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