

**IWH Research Alert**  
**June 4, 2021**

**Missed an issue? Catch up on previous *Research Alerts* available on the IWH website <https://www.iwh.on.ca/journal-articles/research-alerts>**

*Research Alert* is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. *Research Alerts* should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in *Research Alerts* to individuals outside of the organization, as this violates copyright legislation.

**\*Lane TJ, Berecki-Gisolf J, Iles R, Smith PM, and Collie A. The impact of long-term workers' compensation benefit cessation on welfare and health service use: protocol for a longitudinal controlled data linkage study. *International Journal of Population Data Science*. 2021; 6(1):1419.**

<https://doi.org/10.23889/ijpds.v6i1.1419> [open access]

**Abstract:** BACKGROUND: In 2012, the Australian state of New South Wales passed legislation that reformed its workers' compensation system. Section 39 introduced a five-year limit on income replacement, with the first affected group having their benefits cease in December 2017. There is limited evidence on how this will affect their healthcare service use and where they will go for financial support. METHODS: Multiple data sources will be linked: administrative workers' compensation claims data from the State Insurance Regulatory Authority (SIRA), universal health insurance data from the Medical Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS), state hospital and emergency department data, and social welfare data from the Department of Social Services' Data Over Multiple Individual Occurrences (DOMINO). An estimated 4,125 injured workers had their benefits cease due to Section 39. These will



**Institute  
for Work &  
Health**

Research Excellence  
Safe Work  
Healthy Workers

form the exposure group who will be compared to 1) a similar group of workers' compensation claimants who have had at least two years of compensated time off work but whose benefits did not cease due to Section 39; and 2) a community comparison group drawn from state hospital and emergency department records. An accredited third party will link the data, which will be accessible only via secure virtual machine. Initial analyses will compare the prevalence and incidence of service use across groups in both the year before and year after benefit cessation; the community control will be assigned the median benefit cessation date in lieu of an actual date. To estimate the impact of benefit cessation due to Section 39, we will conduct time series analysis of the prevalence and incidence of service use. DISCUSSION: This study will provide much-needed evidence on the consequences of long-term benefit cessation, particularly on subsequent healthcare and welfare service use

**Belevska M, Jovanovic J, Dastevska EG, and Velkovski Z. The importance of individual predictors and psychosocial working conditions in assessing the work ability index of people with low vision. International Journal of Occupational Safety & Ergonomics. 2021; 27(2):442-451.**

<https://doi.org/10.1080/10803548.2019.1613811>

Abstract: Purpose. This investigation aimed to clarify the importance of individual predictors and psychosocial working conditions in estimating the work ability index (WAI) of people with impaired vision. Materials and methods. This study utilized a quantitative cross-sectional design involving 450 respondents who had low vision with visual acuity in the range of 0.05-0.3 and a control group of 150 respondents with visual acuity in the range of 0.5-0.3. The investigation was conducted using the standardized instruments of the Copenhagen psychosocial questionnaire (COPSOQ) and the WAI. Results. The average WAI score of the respondents with low vision was  $30.1 \pm 4.1$  and that of the control group was  $34.7 \pm 3.4$ . Results indicated a positive COPSOQ/WAI correlation in the following domains: work importance; career prospects; rewards/feedback; role and definition; quality of management; social support; job satisfaction; health condition. Negative correlations were indicated in the following domains: quantitative, cognitive and emotional demands; exhaustion; stress. Conclusions. The WAI of people with low vision is both



positively and negatively impacted via different intensities associated with complex correlations, including: gender; age; profession; stress propensity; quantitative, qualitative and emotional demands of work; specificity of work, professional education; presence of stressors.

**Bernacki EJ, Hunt DL, Yuspeh L, Lavin RA, Kalia N, Leung N, et al. What industrial categories are workers at excess risk of filing a COVID-19 workers' compensation claim? A study conducted in 11 Midwestern US States. Journal of Occupational & Environmental Medicine. 2021; 63(5):374-380.**

<https://doi.org/10.1097/JOM.0000000000002126> [open access]

Abstract: OBJECTIVE: Determine the industries with the highest proportion of accepted COVID-19 related workers' compensation (WC) claims. METHODS: Study included 21,336 WC claims (1898 COVID-19 and 19,438 other claims) that were filed between January 1, 2020 and August 31, 2020 from 11 states in the Midwest United States. RESULT: The overwhelming proportion of all COVID-19 related WC claims submitted and accepted were from healthcare workers (83.77%). Healthcare was the only industrial classification that was at significantly higher COVID-19 WC claim submission risk (odds ratio [OR]: 4.00; 95% confidence intervals [CI]: 2.77 to 5.79) controlling for type of employment, sex, age, and presumption of COVID-19 work-relatedness. Within healthcare employment, WC claims submitted by workers in medical laboratories had the highest risk (crude rate ratio of 8.78). CONCLUSION: Healthcare employment is associated with an increased risk of developing COVID-19 infections and submitting a workers' compensation claim

**Cheng SY, Lin KP, Liou YW, Hsiao CH, and Liu YJ. Constructing an active health and safety performance questionnaire in the food manufacturing industry. International Journal of Occupational Safety & Ergonomics. 2021; 27(2):351-357.**

<https://doi.org/10.1080/10803548.2019.1586369>

Abstract: To design a comprehensive health and safety management performance system, extant literature on the health and safety performance indicators of and management systems for the application of occupational health and safety management systems was reviewed; additionally, the provisions of occupational health and safety laws were examined with a total of three main categories,



including 28 active safety and health management performance categories. In the present study, health and safety management performance was evaluated by food manufacturing industry employees. An active performance evaluation questionnaire was developed by adopting the Delphi method to seek professional and expert opinion. With food manufacturing workers as participants, an in-depth discussion was conducted regarding the status of active health and safety performance indicators. Six active health and safety performance indicators were determined: emergency response; change management; procurement management; communication; prevention management; security behavior. These performance indicators have not been sufficiently implemented and require improvement

**van Dorssen-Boog P, van Vuuren T, de Jong JP, and Veld M. Facilitating health care workers' self-determination: the impact of a self-leadership intervention on work engagement, health, and performance. *Journal of Occupational and Organizational Psychology*. 2021; 94(2):259-281.**

<https://doi.org/10.1111/joop.12352> [open access]

Abstract: The present study aims to test the impact of a self-leadership intervention on the work engagement, performance, and health of health care workers. By integrating self-determination theory and self-leadership theory, we propose that when employees are trained how they can autonomously influence own cognitions and behaviour, this will impact their work engagement, perceived performance, and general health. To test the hypotheses, a longitudinal field experiment with three measurement waves was conducted (pre-intervention, immediately after the intervention, and 2 months after the intervention). Health care professionals (n = 195) from five different organizations participated on voluntary basis and were randomly assigned to the intervention or control group. Results show that a self-leadership training positively impacts work engagement and performance of health care workers. Furthermore, the improved work engagement also mediates the effects of the training on health and performance 2 months later. No direct effect was found on general health. Theoretical and practical implications are discussed.



**Eyvazlou M, Asghari A, Mokarami H, Bagheri Hosseinabadi M, Derakhshan Jazari M, and Gharibi V. Musculoskeletal disorders and selecting an appropriate tool for ergonomic risk assessment in the dental profession. Work. 2021; 68(4):1239-1248.**

<https://doi.org/10.3233/WOR-213453>

Abstract: **BACKGROUND:** Work-related Musculoskeletal Disorders (WMSDs) are major challenges in the occupational health services industry. Dental practitioners are regularly subjected to ergonomic risks, which can cause Musculoskeletal Disorders (MSDs) in various body regions. **OBJECTIVE:** This comparative cross-sectional study aimed to investigate MSDs and select a proper ergonomic risk assessment method in dental practice. **METHODS:** This study was conducted on 70 dentists and 70 administrative staff of dental offices (comparison group) from Shahroud, Iran. The Cornell Musculoskeletal Discomfort Questionnaire (CMDQ) and two observational ergonomic risk assessment methods, including Quick Exposure Check (QEC) and Rapid Entire Body Assessment (REBA), were utilized. **RESULTS:** The results suggested that the mean score of musculoskeletal discomforts was significantly higher in dentists than in the administrative personnel. Additionally, the results of multiple regression analysis technique inferred that job tenure, working hours, and age had a significant impact on total MSDs. Regular exercise was found to significantly reduce neck discomfort complaints. It was also found that QEC was more effective in predicting musculoskeletal discomforts compared to REBA. **CONCLUSION:** Considering the high incidence of WMSDs in dentists, various interventional measures revolving around ergonomically redesigned workstations, enhanced physical working conditions, and ergonomic training courses are suggested

**Heinrichs K, Hummel S, Gholami J, Schultz K, Wild B, Li J, et al. Psychosocial working conditions and the subjective prognosis of gainful employment among employees with asthma: a cross-sectional study. Disability and Rehabilitation. 2021; 43(9):1299-1306.**

<https://doi.org/10.1080/09638288.2019.1662496>

Abstract: Purpose: The present study set out to examine whether low job decision latitude (JDL, i.e., limited work autonomy) and low social support at work are related to a poor subjective prognosis of gainful



Institute  
for Work &  
Health

Research Excellence  
Safe Work  
Healthy Workers

employment (SPE) among working rehabilitants with asthma. Methods: JDL and support were assessed by the Copenhagen Psychosocial Questionnaire. The SPE was measured by a validated three-item scale. Separate logistic regression analyses were conducted for all variables to calculate odds ratios (ORs) with 95% confidence intervals (CIs). Results: Among the 221 participants (response rate = 29.3%), those reporting low JDL or low support had more than doubled odds of being unsure that they would be working until retirement age (OR = 2.28; 95% CI = 1.19-4.37; OR = 2.78; 95% CI = 1.43-5.40, respectively) and of considering their work ability permanently at risk due to ill-health (OR = 3.89; 95% CI = 2.03-7.46; OR = 2.05; 95% CI = 1.08-3.90, respectively) compared to those with good working conditions. The associations of JDL or support were weaker with one's consideration to apply for premature pension (OR = 1.54; 95% CI = 0.60-3.98; OR = 2.18; 95% CI = 0.83-5.77, respectively). Additional analyses identified job satisfaction as a possible explanatory factor for the observed relationships. Conclusions: Adverse psychosocial working conditions are related to a poor SPE, and low job satisfaction may explain those relationships. Future prospective research is needed to confirm our findings. Implications for rehabilitation Earlier research suggested that asthma increases the risk of disability retirement and thus causes high direct and indirect costs. Prior findings showed that adverse psychosocial working conditions are related to poorer asthma self-management and increased asthma morbidity among rehabilitants with asthma. Consistent with earlier work the present study found that job decision latitude and social support at work are associated with the subjective prognosis of gainful employment among working rehabilitants with asthma. If the reported findings are confirmed by prospective studies, interventions could be developed to improve the working conditions for rehabilitants with asthma and to thereby reduce their risk of disability retirement.

**Ju H, Kim HC, Jang SW, Won Y, Park SG, and Leem JH. Relationship between fatigue severity scale and occupational injury in Korean workers. *Annals of Occupational and Environmental Medicine*. 2021; 33(1):e15.**

<https://doi.org/10.35371/aoem.2021.33.e15> [open access]

Abstract: Background: The aim of this study is to investigate the



Institute  
for Work &  
Health

Research Excellence  
Safe Work  
Healthy Workers

relationship between fatigue and occupational injury. Methods: This study was conducted at a university hospital in 2014 and 2015. In 2014, the fatigue severity scale (FSS) was used to evaluate workers' fatigue levels. Later, when the same workers were examined in 2015, a questionnaire survey was conducted to determine whether they had experienced absences or treatment for work-related accidents. The  $\chi^2$  test was used to analyse the relationship between demographic characteristics, fatigue levels, and occupational injuries. After controlling for confounders, a logistic regression analysis was performed to calculate the odds ratios (ORs). Results: In 2014, 19,218 workers were screened during health examination and their fatigue level were evaluated using FSS questionnaires. In 2015, workers' occupational injury was evaluated. In result, men in the moderate- and high-fatigue groups, after adjusting for age, smoking and drinking habits, chronic diseases, and occupational factors such as size of company industrial classification and type of work (shift or non-shift), adjusted ORs for hospital treatment due to occupational injury were 1.76 (95% confidence interval [CI]: 1.39–2.24) and 2.61 (95% CI:1.68–4.06), respectively. Among men in the medium- and high-fatigue groups, the adjusted ORs for absence due to occupational injury were 2.06 (95% CI: 1.52–2.80) and 3.65 (95% CI: 2.20–6.05), respectively. No significant association was observed between fatigue and occupational injury in women. Conclusions: Male workers with high fatigue levels have a higher risk of experiencing work injuries. This study suggests that active intervention be considered to prevent injuries in workers with high scores on workplace fatigue evaluation scales

**Maestas NA, Mullen KJ, and Rennane S. Absenteeism and presenteeism among American workers. Journal of Disability Policy Studies. 2021; 32(1):13-23.**

<https://doi.org/10.1177/1044207320933211>

**Michel A, Grob C, Hoppe A, Gonzalez-Morales MG, Steidle A, and O'Shea D. Mindfulness and positive activities at work: intervention effects on motivation-related constructs, sleep quality, and fatigue. Journal of Occupational and Organizational Psychology. 2021; 94(2):309-337.**

<https://doi.org/10.1111/joop.12345> [open access]



Institute  
for Work &  
Health

Research Excellence  
Safe Work  
Healthy Workers

Abstract: Positive psychology research is increasingly being transferred to organizational contexts, and organizations are increasingly striving for healthier and more motivated employees. In this study, a three-week self-instructed online intervention which combines positive activities and mindfulness was developed and evaluated using a randomized-controlled group design with employees. All exercises could be easily integrated into the daily working routine. The intervention is based on broaden-and-build theory, the two-component model of mindfulness and the positive-activity model. Results indicate that the intervention is effective in increasing work engagement, hope and sleep quality as well as in reducing fatigue. Practical implications for human resource departments and corporate health management are discussed. Practitioner points A three-week mindfulness intervention can increase work engagement, hope, sleep quality, and reduce fatigue. Such activities can easily be integrated into the workday and thus, represent a realistic way for employees to improve motivation and reduce health impairment.

**Naber A, Willhite L, and Lucas Molitor W. Exploration of individualized goals and ergonomic modifications to address sedentary behaviors and perceived health and well-being among office workers. *Work*. 2021; 68(4):1133-1142.**

<https://doi.org/10.3233/WOR-213443>

Abstract: Background: Office workers spend significant time in sedentary behaviors. Exploration of interventions to address this concern is warranted. Objective: This study explored the impact of individualized goals and ergonomic modifications on sedentary behaviors and perceived health and well-being among office workers. Methods: A six-week, one-group, pre- and post-test design was utilized to assess sedentary behaviors and perceptions of health and well-being among office workers using the RAND 36-Item Short Form Survey (SF-36), Numerical Pain Rating Scale (NPRS), Pittsburgh Sleep Quality Index (PSQI), Sedentary Behavior Questionnaire (SBQ), actigraphy, and a workstation assessment. Results: Statistically significant improvements were noted from pre- to post-test on the RAND SF-36 for energy/fatigue ( $p = 0.000$ ) and emotional well-being ( $p = 0.049$ ) and subjective sleep quality using the PSQI ( $p = 0.005$ ). Participants ( $n = 17$ ) could set up to two goals related to





health and well-being. A majority of the 31 established goals were met: increase physical activity (n = 11/16), reduce sedentary behavior (n = 8/11), and improve personal health (n = 3/4). Conclusions: The use of individualized goals and ergonomic modifications is effective for addressing perceived health and well-being among office workers. However, limited statistical significance was found regarding the impact of these interventions on sedentary behaviors or activity levels.

**Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Journal of Clinical Epidemiology*. 2021; 134:178-189.**

<https://doi.org/10.1016/j.jclinepi.2021.03.001> [open access]

Abstract: The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement, published in 2009, was designed to help systematic reviewers transparently report why the review was done, what the authors did, and what they found. Over the past decade, advances in systematic review methodology and terminology have necessitated an update to the guideline. The PRISMA 2020 statement replaces the 2009 statement and includes new reporting guidance that reflects advances in methods to identify, select, appraise, and synthesise studies. The structure and presentation of the items have been modified to facilitate implementation. In this article, we present the PRISMA 2020 27-item checklist, an expanded checklist that details reporting recommendations for each item, the PRISMA 2020 abstract checklist, and the revised flow diagrams for original and updated reviews

**Ployhart RE, Shepherd WJ, and Strizver SD. The COVID-19 pandemic and new hire engagement: relationships with unemployment rates, state restrictions, and organizational tenure. *Journal of Applied Psychology*. 2021; 106(4):518-529.**

<https://doi.org/10.1037/apl0000917>

Abstract: The purpose of this article is to simultaneously advance theory and practice by understanding how the Coronavirus disease 2019 (COVID-19) pandemic relates to new hire engagement. Prior research suggests starting a new job is an uncertain experience; we theorize that the COVID-19 pandemic creates additional



environmental stressors that affect new hire engagement. First, we hypothesize that the occurrence of COVID-19 and unemployment rates relate negatively to engagement. Second, we theorize that the effects of the pandemic become more disruptive on new hire engagement as they gain tenure within the organization. Third, drawing from strategic management theory, we test whether States that introduce stronger COVID-19 policies help enhance the engagement of new hires. Examining a U.S. national sample of 12,577 newly hired (90 days or less) quick service restaurant employees across 9 months (January-September, 2020), we find support for these hypotheses. Subsequent model comparisons suggest there may be health stressors that shape engagement more strongly than purely economic stressors. These findings may be important because they highlight the experiences of workers more likely to be exposed to the pandemic and affected by COVID-related policies. Should the results generalize to other samples and jobs, this study offers potentially new research directions for understanding relationships between macro stressors and new hire perceptions and socialization. It also offers practical implications by helping organizations understand the importance of explicitly managing job insecurity, particularly in terms of COVID-19 policy. (PsycInfo Database Record (c) 2021 APA, all rights reserved)

**Leite WKDS, Arauo AJDS, Norte da Silva JM, Gontijo LA, Vieira EMA, Lopes de Souza E, et al. Risk factors for work-related musculoskeletal disorders among workers in the footwear industry: a cross-sectional study. *International Journal of Occupational Safety & Ergonomics*. 2021; 27(2):393-409.**

<https://doi.org/10.1080/10803548.2019.1579966>

Abstract: The aim of the study was to investigate the influence of biomechanical, psychosocial, environmental and individual factors on local and multisite work-related musculoskeletal disorder (WMSD) symptoms among workers at a footwear manufacturing company. The sample comprised 267 workers. The results showed that: (a) age, sedentary lifestyle, inappropriate posture and perceived effort were associated with symptoms in the shoulders, and the combination of these factors increased the odds four-fold; (b) inappropriate posture, perceived effort and bullying were related to symptoms in the wrists, and the combination of these factors



Institute  
for Work &  
Health

Research Excellence  
Safe Work  
Healthy Workers

increased the odds seven-fold; (c) inappropriate posture, perceived effort, length of work at the company and low social support were associated with multisite symptoms, and their combination increased the odds up to 30-fold. Therefore, mainly biomechanical and psychosocial factors were associated with WMSD symptoms, and their combinations increased the odds of occurrence

**Tilchin C, Dayton L, and Latkin CA. Socioeconomic factors associated with an intention to work while sick from COVID-19. Journal of Occupational & Environmental Medicine. 2021; 63(5):363-368.**

<https://doi.org/10.1097/JOM.0000000000002147> [open access]

Abstract: OBJECTIVE: We sought to understand barriers to staying home from work when sick from COVID-19 (COVID-19 presenteeism) to understand COVID-19 health disparities and transmission and guide workplace and social policy. METHODS: We used logistic regression models to assess which socioeconomic factors were associated with intended COVID-19 presenteeism among an online study population working outside their home in March 2020 (N=220). RESULTS: Overall, 34.5% of participants reported intended COVID-19 presenteeism. Younger individuals and individuals making over \$90,000 per year were less likely to report COVID-19 presenteeism. Individuals who were worried about having enough food had 3-fold higher odds of intended COVID-19 presenteeism. CONCLUSION: Current policies around food access, paid sick leave, and other workplace protections need to be expanded and made more accessible to reduce health disparities as well as the transmission of COVID-19 and other infections

\*IWH authored publication.



Institute  
for Work &  
Health

Research Excellence  
Safe Work  
Healthy Workers