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

Al Afreed FM, Lane TJ, and Gray SE. Work-related injuries in the Australian education sector: a retrospective cohort study. *Injury*. 2022; [epub ahead of print].

<https://doi.org/10.1016/j.injury.2022.09.046>

Abstract: Introduction: Educators are exposed to several work-related hazards. Evidence suggests musculoskeletal pain, psychological distress, and student-inflicted violence-related injuries are common. However, there is little evidence on the burden of workplace injury among Australian educators. Aim: To compare incidence of injury claims and duration of compensated time off work between educators and non-educators, and associated factors. Methods: Retrospective cohort study of 1,559,676 Australian workers' compensation claims, including 84,915 educator claims, lodged between July 2009 to June 2015, from the National Dataset for Compensation-based Statistics. Cases were included if aged 18+ years and working in the education sector less than 100 h per week. Negative binomial regression models estimated the relative risk of making a compensation claim and survival analyses calculated disability duration within educators by sex, age, injury type and mechanism, socioeconomic area, remoteness, and jurisdiction. Results: Compared to non-educators, educators had lower rates of injury claims and shorter disability durations. However, educators had a higher rate of claims for mental health conditions and assault, with the highest risk being among those in special education and education aides. Among educators, injury claim rates were highest among special educators, education aides, and secondary educators. Discussion and conclusion: Though surveys indicate Australians in the education sector have higher incidences of work-related injuries, this study found lower incidence of

injury claims and shorter disability durations than others. Educators' injury-reporting and absenteeism behaviors may be constrained by ethical, social, and administrative attitudes. Educators had higher rates of claims for mental health and assault-related injury, particularly special educators, and education aides, which suggests a need for targeted prevention efforts.

Almquist YB and Miething A. The impact of an unemployment insurance reform on incidence rates of hospitalisation due to alcohol-related disorders: a quasi-experimental study of heterogeneous effects across ethnic background, educational level, employment status, and sex in Sweden. BMC Public Health. 2022; 22(1):1847.

<https://doi.org/10.1186/s12889-022-14209-2> [open access]

Abstract: BACKGROUND: Many Western countries have scaled back social and health expenditure, including decreases in the generosity and coverage of unemployment insurance, resulting in negative effects on general health and well-being at the aggregate level. Yet, research has not sufficiently looked into heterogeneity of such effects across different subgroups of the population. In Sweden, the 2006 unemployment insurance reform, implemented on the 1(st) of January 2007, encompassed a drastic increase of insurance fund membership fees, reduced benefit levels, and stricter eligibility requirements. As this particularly affected already socioeconomically disadvantaged groups in society, such as foreign-born and low-educated individuals, the current study hypothesise that the reform would also have a greater impact on health outcomes in these groups. METHODS: Based on register data for the total population, we utilise a quasi-experimental approach to investigate heterogeneous health effects of the reform across ethnic background, educational level, employment status, and sex. Due to behaviourally caused diseases having a relatively shorter lag time from exposure, hospitalisation due to alcohol-related disorders serves as the health outcome. A series of regression discontinuity models are used to analyse monthly incidence rates of hospitalisation due to alcohol-related disorders among individuals aged 30-60 during the study period (2001-2012), with the threshold set to the 1(st) of January 2007. RESULTS: The results suggest that, in general, there was no adverse effect of the reform on incidence rates of hospitalisation due to alcohol-related disorders. A significant increase is nonetheless detected among the unemployed, largely driven by Swedish-born individuals with Swedish-born or foreign-born parents, low-educated individuals, and men. CONCLUSIONS: We conclude that the Swedish 2006 unemployment insurance reform generally resulted in increasing incidence rates of hospitalisation due to alcohol-related disorders among unemployed population subgroups known to have higher levels of alcohol consumption

Bregenzer A, Jimenez P, and Milfelner B. Appreciation at work and the effect on employees' presenteeism. Work. 2022; 73(1):109-120.

<https://doi.org/10.3233/WOR-210766>

Abstract: BACKGROUND: Presenteeism, which means attending work while feeling unhealthy or ill, is a serious risk behavior that reduces the employees' productivity and performance.

Employees who are treated appreciatively by their work environment show less presenteeism. Investigating the mechanisms behind the relationship between appreciation and presenteeism can help to understand how presenteeism can be reduced even more in the workplace. **OBJECTIVE:** This study aimed to investigate the impact of two forms of appreciation (supervisor appreciation and general appreciation from the work environment), on presenteeism and includes the moderating effects of resources and stress. This will help to answer the questions a) which form of appreciation is more beneficial for employees and b) whether appreciation counteracts presenteeism by building up resources. **METHOD:** 1077 Austrian workers were invited to fill-in an online survey about work-related issues. The data was analyzed with structural equation modelling (SEM). **RESULTS:** The results showed that both forms of appreciation increase the resources of the employees. Through this increase of resources employees experience less stress, which consequently lowers presenteeism. Additionally, general appreciation is more beneficial than supervisor appreciation. **CONCLUSION:** The findings indicate that appreciative behavior builds resources at the workplace which are essential for showing less presenteeism at work

Elharake JA, Shafiq M, Cobanoglu A, Malik AA, Klotz M, Humphries JE, et al. Prevalence of chronic diseases, depression, and stress among US childcare professionals during the COVID-19 pandemic. Preventing Chronic Disease. 2022; 19:E61.

<https://doi.org/10.5888/pcd19.220132> [open access]

Abstract: **INTRODUCTION:** Given their central role in supporting children's development, childcare professionals' overall physical and mental health is important. We evaluated the prevalence of chronic diseases, depression, and stress levels during the COVID-19 pandemic among US childcare professionals. **METHODS:** Data were obtained from US childcare professionals (N = 81,682) through an online survey from May 22, 2020, through June 8, 2020. We used multivariable logistic and linear regression models to assess the association of sociodemographic characteristics with 4 physical health conditions (asthma, heart disease, diabetes, and obesity), depression, and stress weighted to national representativeness. **RESULTS:** For physical health conditions, 14.3% (n = 11,717) reported moderate to severe asthma, 6.5% (n = 5,317) diabetes, 4.9% (n = 3,971) heart disease, and 19.8% (n = 16,207) obesity. For mental health, 45.7% (n = 37,376) screened positive for depression and 66.5% (n = 54,381) reported moderate to high stress levels. Race, ethnicity, and sex/gender disparities were found for physical health conditions but not mental health of childcare professionals during the COVID-19 pandemic. **CONCLUSION:** Our findings highlighted that childcare professionals' depression rates during the pandemic were higher than before the pandemic, and depression, stress, and asthma rates were higher than rates among US adults overall during the pandemic. Given the essential work childcare professionals provided during the pandemic, policy makers and public health officials should consider what can be done to support their physical and mental health

Elstad B, Doving E, and Jansson D. Precariousness during an ongoing crisis. Cultural workers and the corona pandemic. *Industrial Relations Journal*. 2022; 53(5):466-483.

<https://doi.org/10.1111/irj.12381> [open access]

Abstract: This study examines precariousness among cultural workers during an ongoing crisis. A survey of Norway's largest trade union for performing artists 1 year into the pandemic shows that precariousness before the pandemic was amplified during the crisis. Lack of economic buffer and social benefits rendered economic insecurity most burdensome for those with precarious work arrangements. For future crises, we suggest that the authorities need to develop better targeted economic compensations for labour with precarious work arrangements.

Feltmann K, Villen T, Beck O, and Gripenberg J. Increasing prevalence of illicit drug use among employees at Swedish workplaces over a 25-year period. *European Journal of Public Health*. 2022; 32(5):760-765.

<https://doi.org/10.1093/eurpub/ckac105> [open access]

Abstract: Background: Reports indicate that the proportion of adults using drugs of abuse has been increasing in recent years in Europe. Although there are various indicators of increased drug use in Sweden over time, few studies could demonstrate an increase in the proportion of adults using drugs. To investigate changes in drug use prevalence over time, drug testing at the workplace has been used for a 25-year period. Methods: The urine samples of employees sent by occupational health services from all over Sweden during a 25-year period were analyzed. The analyzing capacity increased over time (from 3411 in 1994 to 60 315 samples analyzed in 2019), and the majority of the samples was analyzed for the following drugs: cannabis (tetrahydrocannabinol), amphetamine, opiates, cocaine, and benzodiazepines. Results: There was an overall increase in the proportion of samples that tested positive for illicit drugs over a 25-year period. This increase seemed to take place step-wise, with phases of linear increases and plateaus that over time became shorter. About 1.3% of samples tested positive for drugs in 1994, whereas 5.6% tested positive in 2019. Since 2007, the rate of positive samples has increased for cannabis and decreased for benzodiazepines. Although the rate of samples tested positive for opiates had remained relatively stable over the last 20 years, this rate had increased for amphetamine and cocaine between 2013 and 2019. Conclusion: The results indicate that the use of illicit drugs among employees at Swedish workplaces has increased during a 25-year period.

Frangi L, Hadziabdic S, and Masi AC. In the interest of everyone? Support for social movement unionism among union officials in Quebec (Canada). *Industrial Relations Journal*. 2022; 53(5):446-465.

<https://doi.org/10.1111/irj.12380> [open access]

Abstract: Using a mixed-method research design involving interviews and a survey, we examined how union officials in Quebec perceive social movement unionism (SMU). We show that union officials view SMU as a multifaceted phenomenon with ideal and pragmatic

dimensions. They are torn between strong support for the ideals of SMU and a practical reluctance to use members' dues to provide services to non-members. Experience with civil society organisations mitigates this tension, encouraging union officials to defend the interests of everyone not only as an ideal, but also as a strategy that allows unions to protect members and unrepresented workers.

Gernand JM. The occupational safety implications of the California residential rooftop solar photovoltaic systems mandate. *Journal of Safety Research*. 2022; 82:144-150.

<https://doi.org/10.1016/j.jsr.2022.05.005>

Abstract: Introduction: A 2018 change to the California building code mandates that new residential construction in the state include rooftop solar photovoltaic power systems beginning in 2020. As residential construction (especially work on rooftops) is among the more dangerous occupations in the United States, this paper seeks to quantify the increased risks to workers as a result of this mandate. Method: An analysis of the trends by occupation of nonfatal safety incident rates in the United States combined with a Monte Carlo simulation provide an estimate of the uncertain impact of this new mandate. Results: Recordable safety incidents are anticipated to increase by a total of 16.6 incidents (standard deviation = 1.0 incidents) over the 2020-2029 time period as a result of this policy change. However, lessons from Germany and other industries offer potential avenues to reduce the negative social impact of this mandate. Conclusions: While it is not possible to increase employment in any sector without increasing the expected number of occupational injuries to some degree, these results indicate that risks could be considerably reduced by making solar PV system design decisions that increase worker productivity and reduce roof exposure time. Practical applications: Changes such as eliminating work on roofs could decrease the expected number of recordable injuries over the 10-year period by 0.30 incidents per year (a reduction of 18%).

Hao Q, Zhang B, Shi Y, and Yang Q. How trust in coworkers fosters knowledge sharing in virtual teams? A multilevel moderated mediation model of psychological safety, team virtuality, and self-efficacy. *Frontiers in Psychology*. 2022; 13:899142.

<https://doi.org/10.3389/fpsyg.2022.899142> [open access]

Abstract: Examining the influence of trust in fostering knowledge sharing behavior (KSB) in virtual teams is of great research value in the current complex, dynamic, and competitive era of a knowledge economy. This study investigated the relationship between trust in coworkers (TC) and KSB. Based on social information processing theory and social cognitive theory, we developed a multilevel moderated mediation model where the team members' psychological safety (PS) was considered a mediator, while team virtuality (TV) and knowledge sharing self-efficacy (KSSE) acted as team and individual-level moderators, respectively. On surveying 282 individuals in 37 virtual teams of three Chinese internet companies, we found that TC positively affected team members' KSB and this relationship was fully mediated by team members' PS. Our findings also demonstrated that the effect of TC on KSB depended on the degree of TV and employees' KSSE. Specifically, when TV and KSSE were higher, the TC-PS and

PS-KSB relationship and the mediating effects of PS in the TC-PS-KSB relationship were all stronger. Our study extends the trust-KSB literature by identifying the psychological mechanism and boundary conditions in the TC-KSB relationship. Moreover, our findings also offer valuable managerial implications for virtual team managers on facilitating team members' PS and KSB

King TL, Disney G, Sutherland G, Kavanagh A, Spittal MJ, and Simons K. Associations between workers' compensation and self-harm: a retrospective case-series study of hospital admissions data. *The Lancet Regional Health - Western Pacific*. 2022; [epub ahead of print].

<https://doi.org/10.1016/j.lanwpc.2022.100614> [open access]

Abstract: Background While workers' compensation schemes aim to assist and support injured workers, there is some evidence that the process of pursuing a compensation claim may be extremely stressful for workers. This research aimed to compare hospital admissions for self-harm among workers' compensation claimants and non-claimants. Methods A retrospective case-series design, this study used hospital admissions data for 42,567 patients (2011-2018) to estimate rates of hospital admission for intentional self-harm and 'self-harm and probable self-harm' (due to intentional self-harm, poisoning, or undetermined intent) and compare these between workers' compensation claimants and non-claimants. Rates were stratified by gender and calculated for each age group. Findings For males, there was no observable difference between claimants and non-claimants for admission due to intentional self-harm. For female claimants, the incidence rate for admission for intentional self-harm was higher than non-claimants (rate ratio (RR) 2.4, 95%CI 1.8-3.2, risk difference (RD) 47.7 per 100,000 person-years). For the combined category of 'self-harm and probable self-harm', the incidence rate was elevated in both male (RR 5.8, 95%CI 5.0-6.6, RD 167.7 per 100,000 person-years) and female workers' compensation claimants (RR 3.4, 95%CI 2.8-4.2, RD 114.8 per 100,000 person-years) relative to non-claimants. Interpretation Female workers' compensation claimants appear to have elevated rates of admission for intentional self-harm and 'self-harm and probable self-harm' compared to non-claimants. Male claimants appear to have increased rates of hospital admission for 'self-harm and probable self-harm'. This suggests that the process of pursuing workers' compensation may be associated with increased risk of self-harm, and highlights a need for further research. Funding Suicide Prevention Australia Innovation Grant.

Lee WT, Lim SS, Kim MS, Baek SU, Yoon JH, and Won JU. Analyzing decline in quality of life by examining employment status changes of occupationally injured workers post medical care. *Annals of Occupational and Environmental Medicine*. 2022; 34:e17.

<https://doi.org/10.35371/aoem.2022.34.e17> [open access]

Abstract: BACKGROUND: This study aimed to investigate the decline in quality of life (QOL) by examining changes in the employment status of workers who had completed medical treatment after an industrial accident. METHODS: This study utilized the Panel Study of

Worker's Compensation Insurance cohort (published in October 2020) containing a sample survey of 3,294 occupationally injured workers who completed medical care in 2017. We divided this population into four groups according to changes in working status. A multivariate logistic regression model was utilized for evaluating QOL decline by adjusting for the basic characteristics and working environment at the time of accident. Subgroup analysis evaluated whether QOL decline differed according to disability grade and industry group. RESULTS: The QOL decline in the "maintained employment," "employed to unemployed," "remained unemployed," and "unemployed to employed" groups were 15.3%, 28.1%, 20.2%, and 11.9%, respectively. The "maintained employment" group provided a reference. As a result of adjusting for the socioeconomic status and working environment, the odds ratios (ORs) of QOL decline for the "employed to unemployed" group and the "remained unemployed" group were 2.13 (95% confidence interval [CI], 1.51-3.01) and 1.47 (95% CI, 1.13-1.90), respectively. The "unemployed to employed" group had a non-significant OR of 0.76 (95% CI, 0.54-1.07). CONCLUSIONS: This study revealed that continuous unemployment or unstable employment negatively affected industrially injured workers' QOL. Policy researchers and relevant ministries should further develop and improve "return to work" programs that could maintain decent employment avenues within the workers' compensation system

Leung R, Cook MM, Capra MF, and Johnstone KR. The contribution of respiratory and hearing protection use to psychological distress in the workplace: a scoping review. International Archives of Occupational & Environmental Health. 2022; 95(8):1647-1659. <https://doi.org/10.1007/s00420-022-01863-7> [open access]

Abstract: OBJECTIVE: Workers from various industries use personal protective equipment (PPE) including masks, respirators, and hearing protection to reduce their exposures to workplace hazards. Many studies have evaluated the physiological impacts of PPE use, but few have assessed the psychological impacts. The aim of the present study was to carry out a scoping review to compile existing evidence and determine the extent of knowledge on workplace mask, respirator or hearing protection use as a psychosocial hazard (stressor) that could result in a stress response and potentially lead to psychological injury. METHODS: The scoping review followed recognized methods and was conducted using Ovid Emcare, PubMed, Sage Journals, ScienceDirect, Scopus, SpringerLink, Google Scholar and preprint databases (OSF Preprints and medRxiv). Articles on the stressors associated with the use of masks, respirators, and hearing protection were included. The extracted data included author(s) name, year of publication, title of article, study design, population data, stressors assessed, and key findings. RESULTS: We retrieved 650 articles after removal of duplicates, of which 26 were deemed eligible for inclusion for review. Identified factors associated with PPE use that could potentially create a stress response were identified: communication impacts, physical impacts, psychological illness symptoms, cognitive impacts, and perceived PPE-related impacts. Evidence for respirators suggest that there may be psychological injury associated with their use. However, hearing protection appears to have a protective effect in

reducing psychological symptoms such as anxiety, depression, and aggression.

CONCLUSIONS: Mask or respirator use may lead to an increase in work-related stress.

Whereas hearing protection may have protective effects against psychological symptoms and improves speech intelligibility. More research is needed to better understand potential psychosocial impacts of mask, respirator and/or hearing protection use

Mathisen J, Nguyen TL, Jensen JH, Mehta AJ, Rugulies R, and Rod NH. Impact of hypothetical improvements in the psychosocial work environment on sickness absence rates: a simulation study. *European Journal of Public Health*. 2022; 32(5):716-722.

<https://doi.org/10.1093/eurpub/ckac109> [open access]

Abstract: Background: The association between psychosocial working environments and sickness absence is well-known. However, the potential for reducing sickness absences of different lengths through improvements in psychosocial work factors is not fully understood. We aim to quantify the potential for reducing short-, intermediate- and long-term sickness absence rates, respectively, through hypothetical improvements in several psychosocial work factors. Methods: This longitudinal study includes 24 990 public hospital employees from the 2014 wave of the Well-being in Hospital Employees study. The 1-year sickness absence rate was divided into short- (1-3 days), intermediate- (4-28 days) and long-term (29 days or more) periods. We simulated hypothetical scenarios with improvements in 17 psychosocial work factors using the parametric g-formula and estimated resulting changes in sickness absence rate ratios (RRs) with 95% confidence intervals (95% CIs). Results: Setting all 17 psychosocial work factors to their most desirable levels (vs. least desirable levels) was associated with an overall 54% lower rate of sickness absence (95% CI: 48-60%). Reducing bullying (no vs. yes RR: 0.86, 95% CI: 0.83-0.90) and perceived stress (low vs. high RR: 0.90, 95% CI: 0.87-0.92), and increasing skill discretion (high vs. low RR: 0.91, 95% CI: 0.89-0.94) held the largest potential for reducing the total sickness absence rate. Overall, associations were similar for short-, intermediate- and long-term sickness absence. Conclusions: The psychosocial working environment was strongly associated with sickness absence. Improving the working environment may have a great impact on short-, intermediate- and long-term sickness absence rates.

Rhodes S, Wilkinson J, Pearce N, Mueller W, Cherrie M, Stocking K, et al. Occupational differences in SARS-CoV-2 infection: analysis of the UK ONS COVID-19 infection survey. *Journal of Epidemiology & Community Health*. 2022; 76(10):841-846.

<https://doi.org/10.1136/jech-2022-219101> [open access]

Abstract: BACKGROUND: Concern remains about how occupational SARS-CoV-2 risk has evolved during the COVID-19 pandemic. We aimed to ascertain occupations with the greatest risk of SARS-CoV-2 infection and explore how relative differences varied over the pandemic. METHODS: Analysis of cohort data from the UK Office of National Statistics COVID-19 Infection Survey from April 2020 to November 2021. This survey is designed to be representative of the UK population and uses regular PCR testing. Cox and multilevel logistic

regression were used to compare SARS-CoV-2 infection between occupational/sector groups, overall and by four time periods with interactions, adjusted for age, sex, ethnicity, deprivation, region, household size, urban/rural neighbourhood and current health conditions. RESULTS: Based on 3 910 311 observations (visits) from 312 304 working age adults, elevated risks of infection can be seen overall for social care (HR 1.14; 95% CI 1.04 to 1.24), education (HR 1.31; 95% CI 1.23 to 1.39), bus and coach drivers (1.43; 95% CI 1.03 to 1.97) and police and protective services (HR 1.45; 95% CI 1.29 to 1.62) when compared with non-essential workers. By time period, relative differences were more pronounced early in the pandemic. For healthcare elevated odds in the early waves switched to a reduction in the later stages. Education saw raises after the initial lockdown and this has persisted. Adjustment for covariates made very little difference to effect estimates. CONCLUSIONS: Elevated risks among healthcare workers have diminished over time but education workers have had persistently higher risks. Long-term mitigation measures in certain workplaces may be warranted

Rowen A, Grabowski M, and Russell DW. The impact of work demands and operational tempo on safety culture, motivation and perceived performance in safety critical systems. *Safety Science*. 2022; 155:105861.

<https://doi.org/10.1016/j.ssci.2022.105861>

Weinmann S, Tanaka LF, Schauburger G, Osmani V, and Klug SJ. Breast cancer among female flight attendants and the role of the occupational exposures: a systematic review and meta-analysis. *Journal of Occupational & Environmental Medicine*. 2022; 64(10):822-830.

<https://doi.org/10.1097/JOM.0000000000002606>

Abstract: OBJECTIVE: We conducted a systematic review and meta-analysis to investigate occupational exposures and their role in breast cancer (BC) risk among female flight attendants (FFAs). METHODS: We systematically searched PubMed and EMBASE and included all observational studies reporting on the outcome BC incidence among FFAs. The exposures of interest were cosmic radiation and circadian rhythm disruption. Study quality was assessed using the Newcastle-Ottawa Scale. RESULTS: Nine studies met the inclusion criteria, of which four were included in the meta-analysis for BC incidence (pooled standardized incidence ratio, 1.43; 95% confidence interval, 1.32 to 1.54). Three studies suggested a possible association between BC and cosmic radiation, whereas none found an association with circadian rhythm disruption. CONCLUSION: Neither exposure to cosmic radiation nor circadian rhythm disruption seems to explain the elevated risk of BC among flight attendants. Further studies reporting individual information on occupational exposures are needed

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