

IWH Research Alert
June 18, 2021

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***Hossain S, Moll S, Tompa E, and Gewurtz R. The interactive process of negotiating workplace accommodations for employees with mental health conditions. *Work*. 2021; 69(1):75-90.**

<https://doi.org/10.3233/WOR-213459>

Abstract: BACKGROUND: Implementing workplace accommodations is an effective means of retaining employees with mental health conditions. However, the process is poorly understood and poorly documented. OBJECTIVE: The purpose of this research is to explore the interactive process of negotiating workplace accommodations from the perspective of employees with mental health conditions and workplace stakeholders. METHODS: We interviewed employees across Canada who self-identified as having a mental health condition requiring accommodations, and six stakeholders at various workplaces across Canada who are involved in providing accommodations. Data were analyzed using a qualitative descriptive approach to identify key themes. RESULTS: The findings highlight that the process of negotiating accommodations is non-linear, interactive, and political. The process is shaped by organizational and political factors and collaboration between stakeholders. CONCLUSIONS: The negotiation process is a combination of social,



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relational and political factors. Clear and accessible accommodation policies, workplace awareness and specific workplace training on how to implement accommodations are needed to optimize the accommodation process for all involved

***Jetha A, Shamaee A, Bonaccio S, Gignac MAM, Tucker LB, Tompa E, Bultmann U, Norman CD, Banks CG, Smith PM. Fragmentation in the future of work: a horizon scan examining the impact of the changing nature of work on workers experiencing vulnerability. American Journal of Industrial Medicine. 2021; [epub ahead of print].**

<https://doi.org/10.1002/ajim.23262>

Abstract: INTRODUCTION: The future of work is characterized by changes that could disrupt all aspects of the nature and availability of work. Our study aims to understand how the future of work could result in conditions, which contribute to vulnerability for different groups of workers. METHODS: A horizon scan was conducted to systematically identify and synthesize diverse sources of evidence, including academic and gray literature and resources shared over social media. Evidence was synthesized, and trend categories were developed through iterative discussions among the research team. RESULTS: Nine trend categories were uncovered, which included the digital transformation of the economy, artificial intelligence (AI)/machine learning-enhanced automation, AI-enabled human resource management systems, skill requirements for the future of work; globalization 4.0, climate change and the green economy, Gen Zs and the work environment; populism and the future of work, and external shocks to accelerate the changing nature of work. The scan highlighted that some groups of workers may be more likely to experience conditions that contribute to vulnerability, including greater exposure to job displacement or wage depression. The future of work could also create opportunities for labor market engagement. CONCLUSION: The future of work represents an emerging public health concern. Exclusion from the future of work has the potential to widen existing social and health inequities. Thus, tailored supports that are resilient to changes in the nature and availability of work are required for workers facing vulnerability



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Alden LE, Matthews LR, Wagner S, Fyfe T, Randall C, Regehr C, et al. Systematic literature review of psychological interventions for first responders. *Work and Stress*. 2021; 35(2):193-215.

<https://doi.org/10.1080/02678373.2020.1758833>

Bauer GR, Churchill SM, Mahendran M, Walwyn C, Lizotte D, and Villa-Rueda AA. Intersectionality in quantitative research: a systematic review of its emergence and applications of theory and methods. *SSM - Population Health*. 2021; 14:100798.

<https://doi.org/10.1016/j.ssmph.2021.100798> [open access]

Abstract: BACKGROUND: Intersectionality is a theoretical framework rooted in the premise that human experience is jointly shaped by multiple social positions (e.g. race, gender), and cannot be adequately understood by considering social positions independently. Used widely in qualitative studies, its uptake in quantitative research has been more recent. OBJECTIVES: To characterize quantitative research applications of intersectionality from 1989 to mid-2020, to evaluate basic integration of theoretical frameworks, and to identify innovative methods that could be applied to health research. METHODS: Adhering to PRISMA guidelines, we conducted a systematic review of peer-reviewed articles indexed within Scopus, Medline, ProQuest Political Science and Public Administration, and PsycINFO. Original English-language quantitative or mixed-methods research or methods papers that explicitly applied intersectionality theoretical frameworks were included. Experimental studies on perception/stereotyping and measures development or validation studies were excluded. We extracted data related to publication, study design, quantitative methods, and application of intersectionality. RESULTS: 707 articles (671 applied studies, 25 methods-only papers, 11 methods plus application) met inclusion criteria. Articles were published in journals across a range of disciplines, most commonly psychology, sociology, and medical/life sciences; 40.8% studied a health-related outcome. Results supported concerns among intersectionality scholars that core theoretical tenets are often lost or misinterpreted in quantitative research; about one in four applied articles (26.9%) failed to define intersectionality, while one in six (17.5%) included intersectional position components not reflective of social power. Quantitative methods were simplistic (most often regression with interactions, cross-classified variables, or



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stratification) and were often misapplied or misinterpreted. Several novel methods were identified. **CONCLUSIONS:** Intersectionality is frequently misunderstood when bridging theory into quantitative methodology. Further work is required to (1) ensure researchers understand key features that define quantitative intersectionality analyses, (2) improve reporting practices for intersectional analyses, and (3) develop and adapt quantitative methods

Bourdeau M, Guibert N, Fort E, Boulogne S, Lagarde E, and Charbotel B. Medicine consumptions and occupational road risk. Accident Analysis & Prevention. 2021; 158:106202.

<https://doi.org/10.1016/j.aap.2021.106202>

Abstract: **BACKGROUND:** Whereas an increased risk of road traffic crashes has been highlighted as linked to some medicine consumptions, there is no available data on this risk according to the type of journey (private, commuting or mission). Drivers on occupational journey (commuting or mission) are likely to have different coping behaviors related to the use of medicines than drivers on private journey. The aim of our study was to investigate the association between exposure to ten classes of medicines and the risk of being responsible for a road traffic crash according to the type of journey (private, commuting or mission). **METHODS:** The data used came from three French national databases: the national police database of injurious crashes, the police reports and the national health care insurance database. A total of 179,269 drivers aged between 18 and 65 years old involved in an injurious crash in France between July 2005 and December 2015 were included in the analyses. Logistic regression models stratified by journey were used to estimate the Odds Ratios (OR) and 95 % confidence intervals (95 % CI), adjusted for potential confounding factors. **RESULTS:** Medicines exposure levels were generally lower for drivers during occupational journeys, the risk of being responsible for a road traffic crash seems to be higher on commuting or mission journeys than on private journeys for four medicines. Indeed, for antiepileptics the OR was 1.59 [1.01-2.51] for mission journeys, 1.63 [1.24-2.15] for commuting journeys, and 1.47 [1.25-1.73] for private journey. For psycholeptics the OR was 1.02 [0.80-1.28] for mission journey, 1.19 [1.03-1.39] for commuting and 1.17 [1.08-1.26] for private journey. For psychoanaleptics OR was 1.35 [1.02-1.78] for mission journeys,



1.37 [1.17-1.60] for commuting journeys and 1.26 [1.14-1.40] for private journeys. Finally, for other nervous system drugs OR reached 2.04 [1.35-3.07] for mission journeys compared to 1.43 [1.21-1.70] for private journeys. CONCLUSION: Our results encourage the implementation of preventive measures about some treatments and diseases in the context of occupational journeys

Cherry N, Galarneau JM, Haynes W, and Sluggett B. The role of organizational supports in mitigating mental ill health in firefighters: a cohort study in Alberta, Canada. American Journal of Industrial Medicine. 2021; 64(7):593-601.

<https://doi.org/10.1002/ajim.23249>

Abstract: Introduction: Little is known about the effectiveness of ongoing mental health support in reducing the mental health impacts of a traumatic deployment. Methods: A cohort of firefighters was established among those deployed to a devastating wildfire in Alberta, Canada in May 2016. Firefighters completed three questionnaires: at recruitment giving details of exposures, a first follow-up reporting mental health supports before, during, and after the fire and a second follow-up, at least 30 months after the fire, with screening questionnaires for anxiety, depression, and posttraumatic stress disorder (PTSD). Fire chiefs were interviewed about mental health provisions. The impact of supports on mental ill health was estimated, adjusting for clustering within fire service and potential confounders. Results: Of 1234 firefighters in the cohort, 840 completed the questionnaire on mental health supports. In total, 78 of 82 fire chiefs were interviewed. Analysis of the impact of supports on mental ill health included 745 firefighters from 67 fire services. Only 45.8% of reports of peer support were concordant between firefighters and fire chiefs. After adjusting for confounding, the odds ratios (OR) for peer support reported by both fire chief and firefighter were depressive disorder: OR = 0.22, 95% confidence interval (CI), 0.08-0.61; anxiety disorder: OR = 0.45, 95% CI, 0.24-0.82; PTSD: OR = 0.62, 95% CI, 0.37-1.02. Symptoms of anxiety and depression but not PTSD were reduced by resiliency training before the fire and by support offered within 48 h of return from deployment. Conclusion: The results suggest peer support in firefighters is protective but its availability is poorly recognized. PTSD was somewhat less



responsive, perhaps reflecting the cumulative effects of previous exposures.

Cote D, Durant S, MacEachen E, Majowicz S, Meyer S, Huynh AT, et al. A rapid scoping review of COVID-19 and vulnerable workers: intersecting occupational and public health issues. American Journal of Industrial Medicine. 2021; 64(7):551-566. <https://doi.org/10.1002/ajim.23256>

Abstract: **BACKGROUND:** This article reports the results of a rapid scoping review of the literature on COVID-19 transmission risk to workers in essential sectors such as retail, health care, manufacturing, and agriculture, and more particularly the experiences of workers in precarious employment and social situations. **METHODS:** Following scoping review methods, we included 30 studies that varied in terms of methodology and theoretical approaches. The search included peer-reviewed articles and grey literature published between March and September 2020. **RESULTS:** Based on the studies reviewed, we found that COVID-19 infection and death rates increased not only with age and comorbidities, but also with discrimination and structural inequities based on racism and sexism. Racial and ethnic minority workers, including migrant workers, are concentrated in high-risk occupations and this concentration is correlated to lower socioeconomic conditions. The COVID-19 pandemic appears in the occupational health and safety spotlight as an exacerbator of already existing socioeconomic inequalities and social inequalities in health, especially in light of the intersection of issues related to racism, ethnic minority status, and sexism. **CONCLUSIONS:** This review provides early evidence about the limitations of institutions' responses to the pandemic, and their capacity to provide a safe and decent working environment for all workers, regardless of their employment status or the social protections they may enjoy under normal circumstances. It is also important to think about these issues in the postpandemic context, when conditions of precariousness and vulnerability persist and possibly worsen

Daly ER. A review of the applied epidemiology workforce in the United States: past, present, and future. Annals of Epidemiology. 2021; 58:94-103.



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<https://doi.org/10.1016/j.annepidem.2021.03.002>

Abstract: Applied epidemiologists are key professionals within the public health workforce, fulfilling core public health science functions. The public health system in the United States has been rapidly transforming over the last decade and epidemiologists will need to develop new skill sets to be successful in the future of public health. A review of the literature was undertaken to gain a comprehensive understanding of the past and present of the applied epidemiology workforce to inform future workforce initiatives aimed at improving applied epidemiology practice. The literature search identified 48 articles related to applied epidemiologists working in the United States at the federal, state, and local levels. These articles described efforts to build, enumerate, and assess the competency of the applied epidemiology workforce in addition to putting forward opinions about it. Overall, the articles demonstrated significant prior work enumerating the applied epidemiology workforce, some prior work identifying epidemiology training needs, and few prior studies assessing competency. The functions, skill sets, and training needs of epidemiologists have changed over time and the literature provides a number of recommendations for future training. Continued assessment of the workforce literature is recommended to monitor training needs and competency for use in implementing effective workforce development activities

Frangi L, Zhang T, and Banerjee R. Constructing inequalities: tenure trajectories of immigrant workers and union strategies in the Milan construction sector. *British Journal of Industrial Relations*. 2021; 59(2):474-502.

<https://doi.org/10.1111/bjir.12567>

Griffiths D, Sheehan L, van Vreden C, Whiteford P, and Collie A. Returning to the workplace during the COVID-19 pandemic: the concerns of Australian workers. *Journal of Occupational Rehabilitation*. 2021; [epub ahead of print].

<https://doi.org/10.1007/s10926-021-09990-7>

Abstract: Purpose To determine the nature and prevalence of workers' concerns regarding workplaces reopening during the pandemic. To identify characteristics of workers and industries where particular concerns are more common. Method Prospective cohort



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study of 1063 employed Australian adults, enrolled at the start of the pandemic. Data on attitudes to workplaces reopening were collected 1 July-30 September 2020. The frequency of concerns describes infection risk and changes to work and impact on home life. Regression models examined associations between demographic and industry factors with reopening concerns. Results More than four in five (82.4%) of workers reported concerns about workplace infection risk. Just over half (53.4%) reported concerns about impacts to work and home life. Concerns were more prevalent for workers reporting psychological distress, financial stress, and among those exclusively working from home. Concerns regarding infection risk were common for workers in health care (IRR 1.16, 95% CI [1.01, 1.33]), retail (IRR 1.31, 95% CI [1.06, 1.61]), and accommodation/food service industries (IRR 1.25, 95% CI [1.01, 1.55]). Concerns regarding changes to work and home life were more common for female workers (IRR 1.24, 95% CI [1.07, 1.43]), and partners/spouses with dependent children (IRR 1.44, 95% CI [1.16, 1.79]). Conclusion Concerns of COVID-19 infection in the workplace are common. Many workers are also concerned about changes to their work and home life. The prevalence of concerns is related to the nature of work and responsibilities at home. Actions that reduce risk of workplace transmission, coupled with effective communication of infection controls, may alleviate worker concerns whilst recognising workers' family and social circumstances.

Jones-Parkin T, Thomas F, Hess K, and Snyder A. Employment first and transition: Utah school-to-work initiative. Journal of Vocational Rehabilitation. 2021; 54(3):265-271.

<https://doi.org/10.3233/JVR-211135>

Lemke MK, Oberlin DJ, Apostolopoulos Y, Hege A, Sonmez S, and Wideman L. Work, physical activity, and metabolic health: understanding insulin sensitivity of long-haul truck drivers. Work. 2021; 69(1):225-233.

<https://doi.org/10.3233/WOR-213472>

Abstract: BACKGROUND: Long-haul truck drivers are disproportionately exposed to metabolic risk; however, little is known about their metabolic health and the role of physical activity and other risk factors in metabolic outcomes. OBJECTIVE: This study



compares truck drivers' insulin sensitivity, and associations between metabolic risk factors and insulin sensitivity, with those of the general population. METHODS: Survey, anthropometric, and biometric data were collected from 115 long-haul truckers, which were then compared to the general population data using the National Health and Nutrition Examination Survey (NHANES) dataset. The quantitative insulin sensitivity check index (QUICKI) was used to estimate insulin sensitivity. RESULTS: Truck drivers had lower QUICKI scores than the general population cohort. Sagittal abdominal diameter and exercise were predictive for QUICKI among combined cohorts. Waist circumference and perceived health were more predictive for QUICKI among truck drivers, and sagittal abdominal diameter and income were more predictive for QUICKI among the general population. CONCLUSIONS: Long-haul truckers appear to represent a subset of the general population regarding the impact of physical activity and other metabolic risk factors on QUICKI. Accordingly, comprehensive efforts which target these factors are needed to improve truckers' physical activity levels and other metabolic risks

Maghsoudipour M, Hosseini F, Coh P, and Garib S. Evaluation of occupational and non-occupational risk factors associated with carpal tunnel syndrome in dentists. Work. 2021; 69(1):181-186. <https://doi.org/10.3233/WOR-213467>

Abstract: BACKGROUND: Musculoskeletal disorders are very prevalent among dentists. Of these disorders, carpal tunnel syndrome (CTS) is notable. OBJECTIVE: The aim of this study was to investigate the relationship between the occupational and non-occupational risk factors and CTS among dentists. METHODS: It is a cross-sectional study. We evaluated 106 dentists from dental schools in Tehran. We collected data by a general questionnaire, a hand diagram, and physical examination. A nerve conduction velocity (NCV) test was used to confirm the diagnosis of CTS. The analysis was performed using an independent T-test and logistic regressions on SPSS software. RESULTS: The prevalence of CTS among dentists was 17.9%. Significant risk factors of CTS included: vibration exposure greater than two hours per day (OR: 2.5), a wrist diameter ratio of greater than 0.7 (OR: 10.14), and female sex (OR: 13.38). CONCLUSIONS: Exposure to the hand-arm vibration should be



considered as an occupational risk factor for CTS in dentists. Female dentists should take more preventive measures

McAlpine DD and Alang SM. Employment and economic outcomes of persons with mental illness and disability: the impact of the Great Recession in the United States. *Psychiatric Rehabilitation Journal*. 2021; 44(2):132-141.

<https://doi.org/10.1037/prj0000458>

Abstract: Objective: To examine variation in employment and economic outcomes before, during, and after the great recession by disability and mental health status. Methods: Using a sample of adults in the 1999 to 2016 National Health Interview Survey (N = 419,336), we examined changes in labor force and economic outcomes by mental health and physical disability status. We employed difference-in-differences analyses to determine whether the changes in these outcomes during and after the recession for each comparison group (those with moderate mental illness, serious psychiatric disability, or physical disability) were significantly different from the changes for persons with neither a mental illness nor a disability. Findings: While the recession impacted all groups, those with mental illnesses or physical disabilities were hardest hit. Persons with disabilities were disadvantaged on all outcomes at each period, but persons with mental illnesses were the most disadvantaged. Unemployment, poverty, and use of food stamps increased for all groups, but the increase was greatest for persons with mental health problems who also saw a more substantial decline in wage income. Conclusions and Implications for Practice: The effects of the recession persist well after the recovery period. Practitioners should be aware that although most persons with mental illnesses want to work, they face significant barriers to employment. Following economic shocks such as those brought on by the current coronavirus pandemic, interventions should focus on people who are the most vulnerable, especially those with mental health problems. Renewed focus on employment for people with mental disorders is important. (PsycInfo Database Record (c) 2021 APA, all rights reserved)

Murgia N, Brisman J, Olin AC, Dahlman-Hoglund A, Andersson E, and Toren K. Occupational risk factors for airway obstruction



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in a population-based study in Northern Europe. American Journal of Industrial Medicine. 2021; 64(7):576-584.

<https://doi.org/10.1002/ajim.23250>

Abstract: BACKGROUND: Airway obstruction is a key feature of asthma and chronic obstructive pulmonary diseases (COPD). Smoking habits and workplace exposures to vapors, gas, dusts, and fumes (VGDF) could cause or exacerbate airway obstruction. The aim of this study is to evaluate the risk of airway obstruction due to smoking and workplace exposure, and their interaction, in a large population-based study. METHODS: In this cross-sectional study, a sample (n=6153) of the Swedish population aged between 24 and 76 years underwent a questionnaire, clinical examination, blood test, and spirometry to gather information on airway obstruction classified by Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria or American Thoracic Society (ATS)/European Respiratory Society (ERS) criteria, risk factors, and confounders. Occupational exposures to VGDF were rated according to a specific job-exposure matrix. Adjusted logistic regression models were used to evaluate risk factors for airway obstruction in smokers and nonsmokers. RESULTS: In total, 9.8% had airway obstruction by GOLD criteria and 10.3% by ATS/ERS. Smokers with a high likelihood of exposure to VGDF had a higher risk of airway obstruction than those not exposed (odds ratio [OR]: 1.74, 95% confidence interval [CI]: 1.15-2.65 by GOLD; OR: 1.58, 95% CI: 1.06-2.37 by ATS/ERS) especially those >50 years of age. In smokers highly exposed to VGDF, risk estimates were higher than in the whole population, and the interaction between high exposure to VGDF and smoking further increased the risk of airway obstruction. CONCLUSIONS: This study suggests a possible role for interaction between cigarette smoking and VGDF exposure on the risk of airway obstruction

Peek-Asa C, Zhang L, Hamann C, Davis J, and Casteel C. The prevalence of work-related suicides varies by reporting source from the National Violent Death Reporting System. American Journal of Industrial Medicine. 2021; 64(7):585-592.

<https://doi.org/10.1002/ajim.23252>

Abstract: INTRODUCTION: Both suicides overall and work-related suicides are increasing in the United States, and efforts to reduce suicide risk will require an understanding of the frequency and role of



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work in suicides. This study examines the incidence of occupational suicides using the National Violent Death Reporting System (NVDRS), which identified the role of work in suicides using the traditional death certificate as well as from death investigations. METHODS: NVDRS suicides among those aged 16 through 65 from 2013 through 2017 were examined to determine if the death certificate identified the death as work-related, if the death investigation identified a job problem as a suicide circumstance, and if the death investigation indicated that the job problem was a crisis at the time of the suicide. RESULTS: Overall, 1.13% of death certificates identified the suicides as work-related, 2.34% of suicides included a job crisis, and 11.2% a job problem, and proportions did not vary over the years of the study. Overlap between the death certificate and death investigation was very low, with only 0.21% of suicides identified as related to work by both sources. Identification of work-relatedness varied by source for demographic characteristics, mechanism of suicide, and occupation. For example, the death certificate identified 2.1% of suicides among those working in protective services as work-related, but death investigations identified 15.2% as having a job problem. CONCLUSION: Work-related factors may be associated with a far higher proportion of suicides than previously documented

Sepehri S, Aliabadi M, Golmohammadi R, and Babamiri M. Human cognitive functions and psycho-physiological responses under low thermal conditions in a simulated office environment. Work. 2021; 69(1):197-207.

<https://doi.org/10.3233/WOR-213469>

Abstract: Background: In office environments, thermal comfort is one of the most significant factor affecting employees' performance. Objective: This study aimed to determine the effects of exposure to low air temperatures on human cognitive performance, physiological responses, and thermal perceptions during mental work. Methods: Twenty-four volunteers with an age range of 18-30 years participated in this study. The subjects were exposed to four different air temperatures (10, 14, 18, and 22°C) in a climate chamber based on a within-subject design. The n-back, CPT, and PVT tests were employed to evaluate some basic aspects of cognitive performance. Body physiological responses and the subjective thermal comfort



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were also measured. Results: When the thermal condition deviated from relatively neutral temperature, the subjects' cognitive responses significantly disturbed ($P < 0.05$), such that the response accuracy was more affected by reduction of air temperature. The blood pressures and heart rate, galvanic skin response, and respiration rate increased as the air temperature decreased ($P < 0.05$), such that the galvanic skin response as a stress indicator was more affected. In the test configurations, as a result of decrease in air temperature of 1°C , the finger and body skin temperatures reduced to 0.74°C and 0.25°C , respectively. Conclusions: The findings confirmed that low thermal condition can considerably affect cognitive performance and physiological responses during some office work tasks. The subjects' thermal comfort votes proposed that air temperature lower than 14°C can be intolerable for employees during routine mental work. It is suggested that personalized conditioning systems should be used to provide individual thermal comfort in moderate cold air conditions.

Stokke HE. The gender wage gap and the early-career effect: the role of actual experience and education level. Labour. 2021; 35(2):135-162.

<https://doi.org/10.1111/labr.12191> [open access]

Abstract: Abstract This paper studies how the gender wage gap develops with work experience throughout the career. The contribution is twofold. First, the analysis applies matched employer-employee register data with information on actual, rather than potential, experience. Second, the career effect of the gender wage gap is allowed to differ by workers' education level. The male wage premium is small upon entry to the labor market, whereas it increases rapidly throughout the early career, before stabilizing. In contrast to the existing literature, the estimates reveal heterogeneity among high-educated workers, where the widening of the wage gap is much smaller for postgraduates than other college graduates

Tetzlaff EJ, Goggins KA, Pegoraro AL, Dorman SC, Pakalnis V, and Eger TR. Safety culture: a retrospective analysis of occupational health and safety mining reports. Safety and Health at Work. 2021; 12(2):201-208.

<https://doi.org/10.1016/j.shaw.2020.12.001> [open access]

Abstract: Background In the mining industry, various methods of



accident analysis have utilized official accident investigations to try and establish broader causation mechanisms. An emerging area of interest is identifying the extent to which cultural influences, such as safety culture, are acting as drivers in the reoccurrence of accidents. Thus, the overall objective of this study was to analyze occupational health and safety (OHS) reports in mining to investigate if/how safety culture has historically been framed in the mining industry, as it relates to accident causation. Methods Using a computer-assisted qualitative data analysis software, 34 definitions of safety culture were analyzed to highlight key terms. Based on word count and contextual relevance, 26 key terms were captured. Ten OHS reports were then analyzed via an inductive thematic analysis, using the key terms. This analysis provided a concept map representing the 50-year data set-and facilitated the use of text framing to highlight safety culture in the selected OHS mining reports. Results Overall, 954 references-and six themes, safety culture, attitude, competence, belief, patterns, and norms, were identified in the data set. Of the 26 key terms originally identified, 24 of them were captured within the text. The results made evident two distinct frames in which to interpret the data: the role of the individual-and the role of the organization, in safety culture. Conclusion Unless efforts are made to understand and alter cultural drivers-and share these findings within and across industries, the same accidents are likely to continue to occur

Wong JHK, Turner N, Kelloway EK, and Wadsworth EJ. Tired, strained, and hurt: the indirect effect of negative affect on the relationship between poor quality sleep and work injuries. *Work and Stress*. 2021; 35(2):153-170.

<https://doi.org/10.1080/02678373.2020.1774938>

***IWH authored publications.**



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