**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.


Abstract: BACKGROUND: The recently established Occupational Disease Surveillance System (ODSS) was used to examine breast cancer risk in women and men by occupation and industry. METHODS: Ontario workers in the ODSS cohort (1983-2016) were followed up for breast cancer diagnosis through the Ontario Cancer Registry. Cox-proportional hazard models were used to calculate age-adjusted hazard ratios (HRs) and 95% confidence intervals (CIs). RESULTS: A total of 17,865 and 492 cases were identified in working women (W) and men (M), respectively. Elevated risks were observed in management (W: HR = 1.54, 95% CI = 1.40-1.70; M: HR = 2.79, 95% CI = 1.44-5.39), administrative/clerical (W: HR = 1.16, 95% CI = 1.11-1.21; M: HR = 1.45, 95% CI = 1.06-1.99), and teaching (W: HR = 1.54, 95% CI = 1.44-1.63; M: HR = 3.00, 95% CI = 1.49-6.03). Other elevated risks were observed in nursing/health, social sciences, and janitor/cleaning services for both genders. CONCLUSIONS: Common occupational associations in both genders warrant investigation into job-related risk factors, such as sedentary behavior, shift work, ionizing radiation, and chemical exposures.

Abstract: BACKGROUND: Health and social care organisations globally are moving towards prevention-focussed community-based, integrated care. The success of this depends on professionals changing practice behaviours. This study explored the feasibility of applying a behavioural science approach to help staff teams from health organisations overcome psychological barriers to change and implement new models of care. METHODS: An Organisational Participatory Research study was conducted with health organisations from North West England, health psychologists and health workforce education commissioners. The Behaviour Change Wheel (BCW) was applied with teams of professionals seeking help to overcome barriers to practice change. A mixed-methods data collection strategy was planned, including qualitative stakeholder interview and focus groups to explore feasibility factors and quantitative pre-post questionnaires and audits measuring team practice and psychological change barriers. Qualitative data were analysed with thematic analysis; pre-post quantitative data were limited and thus analysed descriptively. RESULTS: Four clinical teams from paediatrics, midwifery, heart failure and older adult mental health specialties in four organisations enrolled, seeking help to move care to the community, deliver preventative healthcare tasks, or become more integrated. Eighty-one managers, medical doctors, nurses, physiotherapists, midwives and other professionals contributed data. Three teams successfully designed a BCW intervention; two implemented and evaluated this. Five feasibility themes emerged from the thematic analysis of qualitative data. Optimising the BCW in an organisational change context meant 1) qualitative over quantitative data collection, 2) making behavioural science attractive, 3) co-development and a behavioural focus, 4) effective ongoing communication and 5) support from engaged leaders. Pre-post quantitative data collected suggested some positive changes in staff practice behaviours and psychological determinants following the intervention. CONCLUSIONS: Behavioural science approaches such as the BCW can be optimised to support teams within health and social care organisations implementing complex new models of care. The efficacy of this approach should now be trialled.

https://doi.org/10.1016/j.aap.2019.01.027

Abstract: Although studies have suggested that personality can forecast safety performance at the individual level, the link between organizational-level personality and safety performance is rarely considered. On the basis of the Attraction-Selection-Attrition (ASA) theory, the present study investigated the direct and indirect effects of the organizational emergence of personality (Five-Factor Model) on individual-level outcomes (safety performance) in the high-speed rail industry. The sample consisted of 1035 high-speed rail operators in China. The results indicated that the effects of organizational-level personality on
safety performance are similar to or stronger than the effects of individual-level personality. Specifically, organizational-level extraversion, agreeableness, and conscientiousness have significantly positive relationships with individual-level safety compliance and safety participation, while neuroticism has a significantly negative relationship with safety compliance and safety participation; the effect of openness to experience was not significant. Moreover, in terms of indirect effects, job satisfaction mediated the links of the four personality constructs (extraversion, agreeableness, neuroticism, and conscientiousness) with safety compliance and safety participation. These findings highlight the importance of organizational personality to improving employees’ safety performance in safety-critical organizations.


https://doi.org/10.5271/sjweh.3793

Abstract: Objectives The aim of this study was to describe the development and the content of the Danish Psychosocial Work Environment Questionnaire (DPQ) and to test its reliability and validity. Methods We describe the identification of dimensions, the development of items, and the qualitative and quantitative tests of the reliability and validity of the DPQ. Reliability and validity of a 150 item version of the DPQ was evaluated in a stratified sample of 8958 employees in 14 job groups of which 4340 responded. Reliability was investigated using internal consistency and test-retest reliability. The factorial validity was investigated using confirmatory factor analysis (CFA). For each multi-item scale, we undertook CFA within each job group and multi-group CFA to investigate factorial invariance across job groups. Finally, using multi-group multi-factor CFA, we investigated whether scales were empirically distinct. Results Internal consistency reliabilities and test-retest reliabilities were satisfactory. Factorial validity of the multi-item scales was satisfactory within each of the 14 job groups. Factorial invariance was demonstrated for 10 of the 28 multi-item scales. The hypothesis that the scales of the DPQ were empirically distinct was supported. The final DPQ version consisted of 119 items covering 38 different psychosocial work environment dimensions. Conclusions Overall, the DPQ is a reliable and valid instrument for assessing psychosocial working conditions in a variety of job groups. The results indicate, however, that questions about psychosocial working conditions may be understood differently across job groups, which may have implications for the comparability of questionnaire-based measures of psychosocial working conditions across job groups.

Abstract: Objective This study aimed to systematically review the literature on the contribution of work and lifestyle factors to socioeconomic inequalities in self-rated health among workers. Methods A search for cross-sectional and longitudinal studies assessing the contribution of work and/or lifestyle factors to socioeconomic inequalities in self-rated health among workers was performed in PubMed, PsycINFO and Web of Science in March 2017. Two independent reviewers performed eligibility and risk of bias assessment. The median change in odds ratio between models without and with adjustment for work or lifestyle factors across studies was calculated to quantify the contribution of work and lifestyle factors to health inequalities. A best-evidence synthesis was performed. Results Of those reviewed, 3 high-quality longitudinal and 17 cross-sectional studies consistently reported work factors to explain part (about one-third) of the socioeconomic health inequalities among workers (grade: strong evidence). Most studies separately investigated physical and psychosocial work factors. In contrast with the 12 cross-sectional studies, 2 longitudinal studies reported no separate contribution of physical workload and physical work environment to health inequalities. Regarding psychosocial work factors, lack of job resources (eg, less autonomy) seemed to contribute to health inequalities, whereas job demands (eg, job overload) might not. Furthermore, 2 longitudinal and 4 cross-sectional studies showed that lifestyle factors explain part (about one-fifth) of the health inequalities (grade: strong evidence). Conclusions The large contribution of work factors to socioeconomic health inequalities emphasizes the need for future longitudinal studies to assess which specific work factors contribute to health inequalities.


Abstract: OBJECTIVE: Paramedics face several safety risks in their occupation, and crashes during emergency response driving (ERD) are quite common. However, there is a need for more research to develop educational and implementation suggestions to determine how these risks can be reduced and managed. In this study, we examined what risk factors Finnish paramedics recognize when performing ERD. METHODS: The study material consisted of 161 pages of material that had been written by experienced paramedics (n = 44) who were master’s degree students of South-Eastern Finland University of Applied Sciences in fall 2017. They wrote essays based solely on their own thoughts and experiences regarding the risk factors associated with ERD. The material was analyzed via inductive content analysis. RESULTS: Two main categories were found: Crew-related risk factors and environmental risk factors. These categories could be further divided into eight sub-categories. The crew-related risk factors consisted of lack of education and training for ERD, insufficient concentration on driving, irresponsibility and indifference, crew
member's inability to take collective responsibility for safety as a team, and excessive load experienced by the driver. Environmental risk factors consisted of demanding handling of ambulance, poor visibility, and other road users.

CONCLUSIONS: Finnish paramedics recognized several risk factors in ERD. Some of the factors have been noted in previous literature regarding ambulance crashes and should be addressed as a matter of urgency to improve safety. Overall, better knowledge regarding these risks needs to be developed worldwide. The results led to several further study suggestions.


https://doi.org/10.1007/s00420-018-1366-8

Abstract: OBJECTIVES: The aim of this study was to examine the prevalence of workplace bullying in Germany while also taking the perpetrator and severity level (measured by frequency) into account and considering the role of gender, age and socio-economic status. METHODS: We used data from a large representative sample (N = 4143) of employees in Germany subject to social security contributions. Self-reported bullying was assessed for different combinations of perpetrators (co-workers, superiors) and according to severity, i.e., being exposed at all and to severe bullying (at least weekly). RESULTS: Prevalence estimates varied from 2.9% for severe bullying by co-workers to 17.1% for overall bullying (i.e., without distinguishing by perpetrator, less severe bullying also included). Unskilled workers reported more bullying by both perpetrators than academics/managers. We also observed an age trend for severe bullying by superiors (i.e., bossing), with younger employees being more affected from bossing than elder. No gender differences were detected. CONCLUSIONS: The findings indicate that it is crucial to consider type of perpetrator and severity of the behaviors when examining the prevalence of workplace bullying. The way bullying is defined and operationalized strongly contributes to the prevalence estimates. Differences between subgroups and associations or cause-effect relationships should be analyzed with these variations in mind.


https://doi.org/10.1037/apl0000346

Abstract: Although gratitude is a key phenomenon that bridges helping with its outcomes, how and why helping relates to receipt of gratitude and its relation with helper's eudaimonic well-being have unfortunately been overlooked in organizational research. The purpose of this study is to unravel how helpers successfully connect to others and their work via receipt of gratitude. To do so,
we distinguish different circumstances of helping-reactive helping (i.e., providing help when requested) versus proactive helping (i.e., providing help without being asked)—and examine their unique effect on the gratitude received by helpers, which, in turn, has downstream implications for helpers’ perceived prosocial impact and work engagement the following day. Using daily experience sampling (Study 1) and critical incident (Study 2) methods, we found that reactive helping is more likely to be linked to receipt of gratitude than proactive helping. Receipt of gratitude, in turn, is associated with increases in perceived prosocial impact and work engagement the following day. Our study contributes to the helping literature by identifying receipt of gratitude as a novel mechanism that links helping to helper well-being, by distinguishing proactive and reactive helping, and by highlighting eudaimonic well-being as an outcome of helping for helpers.

https://doi.org/10.1016/j.scitotenv.2019.02.201

Abstract: BACKGROUND: Climate change has exacerbated the health effects of high ambient temperatures on occupational health and safety; however, to what extent heat stress can induce workplace injuries and economic costs is poorly studied. This study aimed to quantify the attributable fractions of injury claims and subsequent insurance payouts using data from work-related injury insurance system in Guangzhou, China. METHODS: Individual workers’ injury claims data were collected for the period of 2011-2012, including demographic characteristics and work-related information. Daily maximum wet bulb globe temperature (WBGT, degrees C) was calculated from meteorological data. To examine the association between WBGT index and work-related injury, we fit a quasi-Poisson regression with distributed lag non-linear model. Then we calculated the numbers of injury claims and costs of insurance compensations attributable to days with WBGT above the heat stress limit according to the national occupational health standards. RESULTS: There were 9550 work-related injury claims, resulting in an insurance payout of 282.3 million Chinese Yuan. The risks of injury claims increased with rising WBGT. 4.8% (95% eCI: 2.9%-6.9%) of work-related injuries and 4.1% (95% eCI: 0.2%-7.7%) of work-related injury insurance payouts were attributed to heat exposure for WBGT threshold above the heat stress limit. Male workers, those in small enterprises and with low educational attainment were especially sensitive to the effects of heat exposure. CONCLUSIONS: Heat stress can contribute to higher risk of work-related injury and substantial economic costs. Quantified the impacts of injuries and related economic costs should be considered to develop targeted preventive measures in the context of climate change.

Institute for Work & Health
Research Excellence
Advancing Employee Health
https://doi.org/10.1016/j.evalprogplan.2018.12.009

Abstract: BACKGROUND: e-Learning, a means by which to expand people’s access to information can be effective in promoting health in the workplace. This study present steps in the development of an e-health education program at the workplace. OBJECTIVE: This study aimed to present all steps of develop a telehealth education program for computer users using formative research to identify themes to health education for workers. METHODS: A team of expert conducted focus groups with administrative workers (n = 36 participants) to identify thematic health to the development of program. Three meetings were audio video recorded, and notes. All data were based on constant analysis, classical content analysis and keywords in-context. RESULTS: The content of the nine audio videos included four musculoskeletal health topics (Walking Program, Back School, Muscle Relaxation Techniques, and Work-related Musculoskeletal Diseases); three to healthy diet (Eating and Commensality, Ultra-processed Food and Food labeling, and Oil and Fat); two to mental health (Burnout Syndrome and the Meaning of work). CONCLUSION: The proposed steps in the development of a workplace e-health education program were successfully achieved. The engagement of the workers’ staged focus groups was fundamental to the choice of themes relevant to the population in question

https://doi.org/10.1186/s40557-019-0281-0 [open access]

Abstract: Background: Most of the school meal service workers in Korea are middle-aged individuals. They have high workload, which increases their incidence of musculoskeletal disorders. This study aimed to evaluate the prevalence and risk factors of subjective musculoskeletal symptoms, presumptive diagnosis, medical care use, and sick leave among female school meal workers. Methods: We analyzed the results of musculoskeletal disease screening of 1581 female school meal workers. The screening consisted of self-administered questionnaire, history taking by occupational physicians, and physical examination. The prevalence of subjective musculoskeletal symptoms, presumptive diagnosis after initial examination by occupational physicians, use of medical care for more than 7 days, and sick leave due to musculoskeletal diseases during the past year were evaluated in this study. The relative risk of four outcome indicators of musculoskeletal disorders was compared with respect to potential factors, such as age, subjective physical loading, present illness, injury experience, and type of school, using log-binomial regression. Results: The prevalence of subjective musculoskeletal symptom was 79.6%; presumptive
diagnosis, 47.6%; hospital visits over 7 days, 36.4%; and sick leave, 7.3%. The relative risk of musculoskeletal symptoms by age ($\geq 50$ years vs $< 50$ years) was 1.04 (95% confidence interval (CI): 1.00-1.09); presumptive diagnosis of musculoskeletal disease, 1.17 (95% CI: 1.06-1.30); hospital visits over 7 days, 1.26 (95% CI: 0.85-1.85); and sick leave, 1.17 (95% CI: 1.02-1.34). The relative risk of musculoskeletal symptoms due to subjective physical loading (very hard vs low) was 1.45 (95% CI: 1.33-1.58); presumptive diagnosis, 2.92 (95% CI: 2.25); hospital visits over 7 days, 1.91 (95% CI: 1.02-3.59); and sick leave, 2.11 (95% CI: 1.63-2.74). Conclusions: Subjective physical loading was a more important factor in musculoskeletal disorders than the age of female school meal workers.


Abstract: In this meta-analysis, exposures to airborne asbestos during work with or around floor tiles were characterized according to several variables: study, sample type, activity, and task. Personal breathing zone, bystander, and area sample exposure concentrations were differentiated and compared against current occupational exposure limits to asbestos. In total, 22 studies, including 804 personal, 57 bystander, and 295 area samples, were included in the analysis. The arithmetic mean airborne fiber concentrations were 0.05, 0.02, and 0.01 f/cm(3) for personal, bystander, and area samples, respectively. Arithmetic mean time-weighted-average fiber concentrations over an 8-h working day were 0.02 and 0.01 f/cm(3) for personal and bystander samples, respectively. Phase contrast microscopy (PCM) personal airborne fiber concentrations were highest for maintenance activities, followed by removal and installation. Tasks that involved buffing or burnishing, scoring or snapping, and scraping or lifting had the highest personal PCM concentrations, while stripping floor tile and removing it with chemical solvent had the lowest concentrations. Exposures associated with handling asbestos floor tiles, under working conditions normally encountered, do not generally produce airborne concentrations at levels that exceed the current OSHA PEL nor do they appear to approach the threshold cumulative asbestos dose concentrations that have been previously associated with an increased risk of asbestos-related disease.


Abstract: Purpose The employer/worker relationship can be an important catalyst for-or obstacle to-successful return to work (RTW). An understanding of factors associated with an injured worker’s relationship with their employer, and
employer involvement in RTW planning, is warranted. Methods Analysis of n = 8808 cross-sectional survey responses from injured workers in nine Australian workers’ compensation (WC) jurisdictions. Workers completed a telephone survey between 6 and 24 months post-WC claim acceptance. Factors associated with the worker's perception of employer support were examined using ordinal regression. Factors associated with employer provision of RTW plans were examined using logistic regression. Results Factors associated with employer support included being aged over 50 years, not having a mental health condition, better self-rated health and less time between injury and claim. Factors associated with having a RTW plan included being female, not having a mental health condition and working for a self-insurer. Factors associated with having a written RTW plan included being female and being under 50 years. There was wide variation in the provision of RTW plans between WC jurisdictions.

Conclusions There are strong associations between worker, claim and injury-related factors and the injured worker's experience of employer support. Identification of workers at risk of receiving inadequate support during the RTW process may enable interventions to improve support and RTW outcomes.


Abstract: OBJECTIVE: The objective of this study was to investigate the impact of the peer review of literature search strategies prepared in support of rapid reviews. METHODS: A sample of 200 CADTH rapid reviews was selected. For each rapid review meeting the inclusion criteria, the pre-peer-reviewed and corresponding post-peer-reviewed search strategies were run, and the search results were compared. Bibliographic records retrieved solely by the post-peer-reviewed search strategy and included in the rapid review report were identified as representing "included studies." The publication type of each included study was determined, and the attributes of the corresponding record were analyzed to determine the reason for its retrieval by the post-peer-reviewed search. RESULTS: The peer review of search strategies resulted in the retrieval of one or more additional records for 75% of the searches investigated, but only a small proportion of these records (4%) represented included studies. The main publication types of the included studies were nonrandomized studies (60%) and narrative reviews (20%). The principal changes to search strategies that resulted in the retrieval of additional included studies were the inclusion of more keywords or subject headings or a change in the way concepts were combined. CONCLUSIONS: The peer review of literature search strategies aids in the retrieval of relevant records particularly those representing nonrandomized studies. The scrutiny of keywords, subject headings, and the relation between search concepts are key components of the peer review process.
https://doi.org/10.1002/ejp.1323

Abstract: BACKGROUND: Presenteeism (work productivity loss at work) and low back pain (LBP) are prevalent among eldercare workers. Presenteeism is a serious emerging problem in an occupational setting. While many studies report the impact of pain-related fear on absenteeism, its impact on presenteeism remains unclear. METHODS: We conducted a cross-sectional study to investigate the association between pain-related fear and presenteeism among 505 eldercare workers with LBP. We measured pain-related fear using the 11-item Tampa Scale for Kinesiophobia (TSK-11). We used the Work Limitations Questionnaire (WLQ) to estimate productivity loss due to presenteeism with items including Time Management, Mental-Interpersonal Demands, Physical Demands and Output Demands. The presenteeism was categorized into no (<5%), mild (5%-10.9%), moderate (11%-16.9%) and severe presenteeism (>17%). We further performed ordinal logistic regression analyses, and the covariates were age, sex, pain intensity, pain disability and psychosocial factors. Multiple imputation was conducted to provide informed estimates for observations with missing data. RESULTS: After adjustment, a higher TSK score was significantly associated with a higher presenteeism (proportional OR = 1.10, 95% CI = 1.06-1.15). A significant association of TSK with all WLQ subscales was retained even after the adjustment (Time Management: proportional OR = 1.04, 95% CI = 1.01-1.08; Mental-Interpersonal Demands: proportional OR = 1.08, 95% CI = 1.04-1.12; Physical Demands: proportional OR = 1.04, 95% CI = 1.01-1.08; and Output Demands: proportional OR = 1.06, 95% CI = 1.02-1.10). CONCLUSIONS: Our findings suggest that pain-related fear is an important factor related to presenteeism among eldercare workers with LBP.
SIGNIFICANCE: This study describes an independent association of pain-related fear with presenteeism among eldercare workers with low back pain. Pain-related fear could be considered a vital factor of presenteeism in addition to absenteeism.

https://doi.org/10.3390/ijerph15030493 [open access]

Abstract: The increasing prevalence of chronic diseases among the European working age population, as well as the implications for the individual and societal level, underline the need for policy guidelines targeting the effective inclusion of persons with chronic diseases in the workplace. The aim of the present paper was to explore the perspectives of European and National-level stakeholders on existing strategies for work re-integration of persons with chronic diseases, and to provide policy guidelines. A highly-structured interview protocol was distributed.
to 58 National level stakeholders (policy makers, professionals and employers) from seven European countries. Additionally, 20 European organizations concerned with health-related issues and employment completed an online survey. The findings reveal that employment-related challenges remain largely unaddressed. Both national and European stakeholders considered the existing legislative frameworks inadequate and appraised the co-ordination for the implementation of employment re-integration policies as ineffective. Policies targeting at work re-integration of persons with chronic diseases at European and national level should focus on consistent cooperation among all key stakeholders, awareness raising to staff and management, dissemination of effective strategies, developing research and evaluation standards and establishing monitoring systems on inclusive labour markets

*IWH authored publication.*