Good work is good for health and wellbeing

Comcare’s work is centered on the ever increasing evidence that good work, in general, is good for health and wellbeing. Particularly that participation in work as part of recovery is good for people.

The emerging evidence alert

This Emerging Evidence Alert includes the latest news and evidence on the health benefits of work, recovery at and return to work, as well as a WHS issues to keep people healthy and safe in work.

We encourage employers to share their approaches and good practice in the emerging evidence alert.

Where possible, links to the full text of the articles have been included. The Digital Object Identifier (DOI) has also been included where possible, to enable direct links to the article and journal. Where some records are linked to subscription databases, check with your library to see if you have access or may ask for an interlibrary loan. Registered National Library of Australia users have access to a number of databases and resources.

Cross-Sector Systems Project

The Cross-Sector Project: Mapping Australian Systems of Income Support for People with Health-Related Work Incapacity is the first research to look at a number of major compensation and benefit systems to identify the flow of people through them, how the systems interact, and where they can be improved to deliver better health and productivity outcomes. The Cross-Sector report was commissioned by the Collaborative Partnership to Improve Work Participation—a unique public-private sector initiative that aims to deliver sustainable benefits for Australia’s working age population.

The study, by Monash University researchers, mapped 10 major systems of income support in Australia: employer provided entitlements; workers’ compensation (short tail and long tail schemes); motor vehicle accident compensation (lump sum and statutory benefits); life insurance (income protection and total and permanent disability schemes); defence and veterans’ compensation and pensions; superannuation; and social security

What were the broad findings of the report?

The study estimated 786,000 Australians who were unable to work due to ill health, injury or disability received some form of income support from a Commonwealth, state, territory or private source in 2015-16, totalling around $18 billion.

Researchers produced a conceptual map of Australia’s income support systems showing the volumes of people, the types of income support they receive and how they might move through the various systems.

Of those unable to work, support was provided through a complex array of government authorities, private sector insurers and employers. Each system had different rules and processes to determine eligibility, level of support provided and the duration of support.

Case management was the only service provided across all systems, however models of case management varied markedly. Six systems funded return to work (RTW) services. The most structured and widely delivered RTW services are provided by employers and workers’ compensation schemes.
Opportunities to Improve Work and Health

Potential improvements identified through this report include better information and data sharing to provide greater understanding of the systems of income support. There are also opportunities for better aligning service models, particularly through reforming GP certification and work capacity assessment, to reduce overlap and improve service delivery.

The Cross-Sector Project Report also states that “The opportunities to make the greatest impact are in the upstream systems closer to the onset of health conditions and exit from work. For example, an intervention that improves the health and well-being of workers while they are in work will reduce the number of workers who become ill and have long periods of work incapacity. This in turn will reduce the flow into the downstream systems and reduce the overall burden of work incapacity in society.”

Emerging Evidence Topics

- Absenteeism and presenteeism
- Ageing workforce
- Asbestos and mesothelioma
- Bullying
- Chronic health issues
- Employment and unemployment
- Ergonomics
- Health and wellbeing at work
- Health promotions
- Management and leadership
- Musculoskeletal issues
- Occupational issues
- Psychosocial issues
- Rehabilitation
- Return to work
- Shift work
- Work ability
- Work Health and Safety
- Workers compensation
- Work stress

ABSENTEEISM AND PRESENTEEISM

Title  Prediction of long-term absence due to sickness in employees: development and validation of a multifactorial risk score in two cohort studies
Author/s  Airaksinen, J et al
Source  Scandinavian journal of work, environment & health 2018 44 3 274-282
doi:10.5271/sjweh.3713
Abstract  Objectives This study aimed to develop and validate a risk prediction model for long-term sickness absence. Methods Survey responses on work- and lifestyle-related questions from 65 775 public-sector employees were linked to sickness absence records to develop a prediction score for medically-certified sickness absence lasting >9 days and ≥90 days. The score was externally validated using data from an independent population-based cohort of 13 527 employees. For both sickness absence outcomes, a full model including 46 candidate predictors was reduced to a parsimonious model using least-absolute-shrinkage-and-selection-operator (LASSO) regression. Predictive performance of the model was evaluated using C-index and calibration plots. Results Variance explained in ≥90-day sickness absence by the full model was 12.5%. In the parsimonious model, the predictors included self-rated health (linear and quadratic term),
depression, sex, age (linear and quadratic), socioeconomic position, previous sickness absences, number of chronic diseases, smoking, shift work, working night shift, and quadratic terms for body mass index and Jenkins sleep scale. The discriminative ability of the score was good (C-index 0.74 in internal and 0.73 in external validation). Calibration plots confirmed high correspondence between the predicted and observed risk. In >9-day sickness absence, the full model explained 15.2% of the variance explained, but the C-index of the parsimonious model was poor (<0.65). Conclusions Individuals’ risk of a long-term sickness absence that lasts ≥90 days can be estimated using a brief risk score. The predictive performance of this score is comparable to those for established multifactorial risk algorithms for cardiovascular disease, such as the Framingham risk score.

AGEING WORKFORCE

Title Framework for considering productive aging and work
Author/s Schulte, PA et al
Source Journal of occupational and environmental medicine May 2018 60 5 440-448
doi: 10.1097/JOM.0000000000001295

Abstract Objectives: The U.S. population is experiencing a demographic transition resulting in an aging workforce. The objective of this article is to elucidate and expand an approach to keep that workforce safe, healthy, and productive.
Methods: This article elucidates the framework for the National Center for Productive Aging at Work of the National Institute for Occupational Safety and Health. Subject matter experts used a snowball method to review published literature to substantiate elements in the framework.
Results: Evidence-based literature supports a productive aging framework for the workforce involving the following elements: 1) life span perspective; 2) comprehensive and integrated approaches to occupational safety and health; 3) emphasis on positive outcomes for both workers and organizations; and 4) supportive work culture for multigenerational issues.
Conclusion: The productive aging framework provides a foundational and comprehensive approach for addressing the aging workforce.

Title The Impact of work ability on work motivation and health: a longitudinal study based on older employees
Author/s Feißel, Annemarie Swart, Enno, March, Stefanie
Source Journal of occupational and environmental medicine May 2018 60 5 238–244
doi: 10.1097/JOM.0000000000001244

Abstract Objective: Work participation is determined by work motivation and work ability with health as a significant component. Within the lidA-study, we explore the impact of work ability on work motivation and health with consideration of further influencing factors.
Methods: Four thousand one hundred nine older employees were interviewed two times (t 0 = 2011, t 1 = 2014). Two multivariate analyses were performed regarding the influence of work ability on work motivation (Model 1) and health (Model 2).
Results: Within the multivariate analysis, of all the influencing factors, work ability has the strongest effect on work motivation (F = 37.761) and health (F = 76.402). It appears as a decisive determinant for both dimensions.
Conclusion: Regarding the results, it is useful to focus on on the work ability of older employees in order to maintain and boost their work motivation and health.
Title: Occupational and educational inequalities in exit from employment at older ages: evidence from seven prospective cohorts

Author/s: Carr, E et al

Source: Occupational & environmental medicine May 2018 75 5 http://dx.doi.org/10.1136/oemed-2017-104619

Abstract: Objectives Past studies have identified socioeconomic inequalities in the timing and route of labour market exit at older ages. However, few studies have compared these trends cross-nationally and existing evidence focuses on specific institutional outcomes (such as disability pension and sickness absence) in Nordic countries. We examined differences by education level and occupational grade in the risks of work exit and health-related work exit.

Methods: Prospective longitudinal data were drawn from seven studies (n=99,164). Participants were in paid work at least once around age 50. Labour market exit was derived based on reductions in working hours, changes in self-reported employment status or from administrative records. Health-related exit was ascertained by receipt of health-related benefit or pension or from the reported reason for stopping work. Cox regression models were estimated for each study, adjusted for baseline self-rated health and birth cohort.

Results: There were 50,003 work exits during follow-up, of which an average of 14% (range 2–32%) were health related. Low level education and low occupational grade were associated with increased risks of health-related exit in most studies. Low level education and occupational grade were also associated with an increased risk of any exit from work, although with less consistency across studies.

Conclusions: Workers with low socioeconomic position have an increased risk of health-related exit from employment. Policies that extend working life may disadvantage such workers disproportionally, especially where institutional support for those exiting due to poor health is minimal.

Title: Sick leave among people in paid work after age 65: a Swedish population-based study covering 1995, 2000, 2005 and 2010

Author/s: Farrants, K et al

Source: Scandinavian journal of public health 46 3 297-305 Special issue: Working life and health

Abstract: Aims: Extending working life into older age groups is discussed in many countries. However, there is no knowledge about how this affects rates of sick leave. The aim of this work was to investigate rates of sick leave among people in paid work after retirement age and if such rates have changed over time.

Methods: Swedish nationwide register data on people aged >65 years and living in Sweden in 1995, 2000, 2005 and 2010 were analysed. All people with a sufficiently high work income to be eligible for public sick leave benefits were included. The proportions in paid work and compensated rates of sick leave for people aged 66–70 and ≥71 were analysed by sex, educational level, country of birth, living area, and employment type and sector.

Results: The percentage of people in paid work at ages 66–70 years increased from <10% in 1995 to 24% in 2010 and among those aged ≥71 years from 2.7% in 1995 to 3.5% in 2010. The rates of sick leave among working people aged 66–70 years were 3.3% in 1995 and 2.4% in 2010 and for people aged ≥71 years the rates of sick leave were 2.2% in 1995 and 0.2% in 2010. Women had higher rates of sick leave than men in 2005 and 2010, but lower in 1995 and 2000. In 2010, the rates of sick leave were similar between employees and the self-employed, and higher among employees in the public sector than among employees in the private sector.

Conclusions: Rates of sick leave among workers aged >65 years were lower in 2010 than in 1995, despite much higher rates of labour market participation in 2010.
Towards sustainable work and longer working lives

The population in developed countries is rapidly ageing. For example, in 1950, in Europe, there were more than seven people of working age for every one of pension age, while by 2050, the corresponding number will be fewer than two [1–3]. The European Union’s Europe 2020 strategy for smart, sustainable and inclusive growth has a major focus on working life as well, taking the approach of raising the retirement age, on the one hand, and increasing the proportion of the employed population, on the other. However, the question of interest concerns not only longer working lives at the end of a career but also sustainable work, the quality of work – working conditions – and an individual’s health and ability to work over the whole life course.

ASBESTOS AND MESOTHELIOMA

The psychological distress and care needs of mesothelioma patients and asbestos-exposed subjects: a systematic review of published studies

Background The purpose of this study is to present the results of a systematic review of published research that focuses on psychological aspects of malignant mesothelioma patients and asbestos-exposed people.


Results We identified 12 papers that investigated the psychological distress and care needs of mesothelioma patients, and nine papers for asbestos-exposed subjects.

Conclusions This paper highlights the paucity of studies on the psychological distress and care needs of mesothelioma patients and asbestos-exposed subjects. It confirms that malignant mesothelioma is associated with the physical, emotional, and social functioning of patients, while also suggesting that the risk of developing asbestos-related diseases among asbestos-exposed subjects is associated with high levels of psychological distress, despair, and mental health difficulties.

BULLYING

Negative social acts and pain: evidence of a workplace bullying and 5-HTT genotype interaction

Objectives Long-term exposure to systematic negative acts at work, usually labeled workplace bullying, is a prevalent problem at many workplaces. The adverse effects of such exposure may range from psychological symptoms, such as depression and anxiety to somatic ailments like cardiovascular disease and musculoskeletal complaints. In this study,
we examined the relationships among exposure to negative acts, genetic variability in the 5-HTT gene SLC6A4 and pain.

Methods The study was based on a nationally representative survey of 987 Norwegian employees drawn from the Norwegian Central Employee Register by Statistics Norway. Exposure to bullying in the workplace was measured with the 9-item version of the Negative Acts Questionnaire – Revised (NAQ-R) inventory. Pain was rated using an 11-point (0–10) numeric rating scale (NRS). Genotyping with regard to SLC6A4 was carried out using a combination of gel-electrophoresis and TaqMan assay.

Results The data revealed a significant interaction between exposure to negative acts and the SLC6A4 genotype with regard to pain (linear regression with 5000 resamples; age, sex, tobacco use and education were included as covariates). The relationship between negative acts and pain intensity was significantly stronger for subjects with the LALA genotype than for subjects with the SLA/LALG/SLG genotype. No significant difference between subjects with the LALA genotype and SS genotype was observed.

Conclusions Our data demonstrated that the relationship between bullying and pain was modified by the 5-HTT genotype, ie, genetic variation in SLC6A4. The association between negative acts and health among vulnerable individuals appeared more potent than previously reported.

CHRONIC HEALTH ISSUES

Title Systematic review and meta-analysis of genetic risk factors for neuropathic pain

Author/s Veluchamy, A et al

Source Pain May 2018 159 5 825–848 doi: 10.1097/j.pain.0000000000001164

Abstract Neuropathic pain (NP) is an increasingly common chronic pain state and a major health burden, affecting approximately 7% to 10% of the general population. Emerging evidence suggests that genetic factors could partially explain individual susceptibility to NP and the estimated heritability in twins is 37%. The aim of this study was to systematically review and summarize the studies in humans that have investigated the influence of genetic factors associated with NP. We conducted a comprehensive literature search and performed meta-analyses of all the potential genetic variants associated with NP. We reviewed 29 full-text articles and identified 28 genes that were significantly associated with NP, mainly involved in neurotransmission, immune response, and metabolism. Genetic variants in HLA genes, COMT, OPRM1, TNFA, IL6, and GCH1, were found to have an association with NP in more than one study. In the meta-analysis, polymorphisms in HLA-DRB1*13 (odds ratio [OR], 2.96; confidence interval [CI], 1.93-4.56), HLA-DRB1*04 (OR, 1.40; CI, 1.02-1.93), HLA-DQB1*03 (OR, 2.86; CI, 1.57-5.21), HLA-A*33 (OR, 2.32; CI, 1.42-3.80), and HLA-B*44 (OR, 3.17; CI, 2.22-4.55) were associated with significantly increased risk of developing NP, whereas HLA-A*02 (OR, 0.64; CI, 0.47-0.87) conferred reduced risk and neither rs1799971 in OPRM1 (OR, 0.55; CI, 0.27-1.11) nor rs4680 in COMT (OR, 0.95; CI, 0.81-1.13) were significantly associated with NP. These findings demonstrate an important and specific contribution of genetic factors to the risk of developing NP. However, large-scale replication studies are required to validate these candidate genes. Our review also highlights the need for genome-wide association studies with consistent case definition to elucidate the genetic architecture underpinning NP.

Title Determinants of working until retirement compared to a transition to early retirement among older workers with and without chronic diseases: results from a Dutch prospective cohort study

Author/s Sewdas, R
Abstract
Aim: The ageing society and recent policy changes may lead to an increase of older workers with chronic diseases in the workforce. To date, it is unclear whether workers with chronic diseases have specific needs while employed. The aim of this study is to explore the differences in determinants of working until retirement compared to a reference group who have transitioned to early retirement among workers with and without chronic diseases.

Methods: Dutch workers aged 57–62 years (n = 2445) were selected from an existing prospective cohort study, ‘STREAM’. The potential determinants were categorized into: individual, health, work-related and social factors. Logistic regression analyses were performed to determine the associations between these determinants and working until retirement – once for workers with and once for those without chronic diseases. To test differences, we included an interaction term between the determinant and the covariate ‘having a chronic disease yes/no’ in the analyses of the total population.

Results: In total, 1652 (68%) persons were employed from 2011 to 2013. The majority of the determinants appeared to be similar for workers with or without a chronic disease; the interaction terms for these determinants and the covariate ‘having a chronic disease’ showed a p-value higher than 0.05, except for one individual factor (i.e. mastery) and one work-related factor (i.e. autonomy), which showed a p-value below 0.05. Higher mastery and higher autonomy were statistically significantly associated with working until retirement for those with chronic diseases, whereas they were not for those without chronic diseases.

Conclusions: Differences between workers with and without chronic diseases may exist for working until a statutory retirement age. Interventions aimed at encouraging work participation of older workers should make a distinction between the two groups. Autonomy at work and mastery were found to be factors that may promote work participation until higher age, specifically for older workers with chronic diseases.
Abstract

Aims: The aims of this study were to describe the perceived work ability of unemployed individuals and to explore the association between perceived good work ability and sociodemographic, work-related and well-being factors.

Methods: The data were derived from the Finnish Regional Health and Well-being Study (ATH) collected by postal and Internet-based questionnaires in 2014–2015. The random sample was selected from the Finnish National Population Register. The present study includes data from unemployed or laid-off respondents \((n=1975)\) aged 20–65 years. Logistic regression was used in the statistical analysis. Perceived work ability was measured with the Work Ability Score.

Results: Factors significantly associated with good work ability were having young children living in the household, short-term unemployment, low or moderate physical strain in most recent job, moderate mental strain in most recent job, satisfaction with most recent job, good self-rated health and good quality of life. Good self-rated health \((\text{odds ratio}=10.53, \text{95\% confidence interval 5.90–18.80})\) was the most substantial factor in the multivariate model.

Conclusions: The findings provide further evidence on the factors related to good work ability of the unemployed. These factors should be considered when designing interventions for promoting work ability and to minimise the harmful effects of long-term unemployment.

ERGONOMICS

Title

Effect of alternating postures on cognitive performance for healthy people performing sedentary work

Author/s

Schwartz, Bet al

Source

Ergonomics 2018 61 6 778-795

Abstract

Prolonged sitting is a risk factor for several diseases and the prevalence of worksite-based interventions such as sit-to-stand workstations is increasing. Although their impact on sedentary behaviour has been regularly investigated, the effect of working in alternating body postures on cognitive performance is unclear. To address this uncertainty, 45 students participated in a two-arm, randomised controlled cross-over trial under laboratory conditions. Subjects executed validated cognitive tests (working speed, reaction time, concentration performance) either in sitting or alternating working postures on two separate days (ClinicalTrials.gov Identifier: NCT02863731). MANOVA results showed no significant difference in cognitive performance between trials executed in alternating, standing or sitting postures. Perceived workload did not differ between sitting and alternating days. Repeated measures ANOVA revealed significant learning effects regarding concentration performance and working speed for both days. These results suggest that working posture did not affect cognitive performance in the short term.

Practitioner Summary: Prior reports indicated health-related benefits based on alternated (sit/stand) body postures. Nevertheless, their effect on cognitive performance is unknown. This randomised controlled trial showed that working in alternating body postures did not influence reaction time, concentration performance, working speed or workload perception in the short term.

Title

Usage of sit-stand workstations and associations between work and nonwork sitting time: an observational study

Author/s

Mazzotta, M et al

Source

Journal of occupational and environmental medicine May 2018 60 5 268–272 doi: 10.1097/JOM.0000000000001252
Abstract
Objective: No studies have objectively measured habitual usage of sit-stand workstations. Methods: Eighteen full-time office workers participated (47.9 ± 9.2 years, 61% female). Sitting time was objectively measured (activPAL, 24 h/7 days), and time at desk, desk position, and perceptions of desk use were self-reported. Results: Participants sat for 39% of their daily workstation time, and changed workstation position twice daily. The most common reasons for standing included back pain (44%) and tiredness (22%). The majority of participants received no workstation occupational health (72%) or educational (61%) information. Workstation standing time had a significant moderate correlation with total daily standing time ($P = 0.02$). Conclusion: Office workers with sit-stand workstations rarely change desk position, and there is no relationship between the time spent sitting at the workstation, and total daily sitting time. Education about the workstations was limited.

Weblink

Health and Wellbeing at Work

Title
Managing the social determinants of health: part 1 fundamental knowledge for professional case management

Author/s
Fink-Samnick, Ellen

Source

Abstract
Objectives: This article will: Define the social determinants of health (SDH, Provide industry evidence on the SDH from a population health perspective, Discuss current sociopolitical drivers to impact the progression of SDH, Discuss career implications for the professional case management workforce Primary Practice Setting(s): Applicable to health and behavioral health settings, wherever case management is practiced. Finding/Conclusion: The SDH pose major challenges to the health care workforce in terms of effective resource provision, health and behavioral health treatment planning plus adherence, and overall coordination of care. Obstacles and variances to needed interventions easily lead to less than optimal outcomes for case managers and their health care organizations. Possessing sound knowledge and clear understanding of each SDH, the historical perspectives, main theories, and integral dynamics, as well as creative resource solutions, all support a higher level of intentional and effective professional case management practice. Implications for Case Management Practice: Those persons and communities impacted most by the SDH comprise every case management practice setting. These clients can be among the most vulnerable and disenfranchised members of society, which can easily engender biases on the part of the interprofessional workforce. They are also among the costliest to care for with 50% of costs for only 5% of the population. Critical attention to knowledge about managing the SDH leverages and informs case management practice, evolves more effective programming, and enhances operational outcomes across practice settings.

Weblink

Title
The “total worker health” concept: a case study in a rural workplace

Author/s
Watkins, C et al

Source
Journal of occupational and environmental medicine May 2018 60 5 387–391 doi: 10.1097/JOM.0000000000001273

Abstract
Objective: This case study was conducted to identify barriers of integration of health protection and health promotion in rural workplaces with tailored interventions that address the identified barriers. Methods: Data on a workplace’s ability to integrate wellness programs and health protection programs were collected through a questionnaire along with a seven-question interview. Descriptive statistics were used to analyze the quantitative data. Qualitative measures were
assessed using thematic analysis. Based off the results of the assessments, the company received tailored training sessions.

Results: The largest hindrance to organizational support was time. However, improved knowledge about the need and importance of integration helped the participants to conceptualize and plan for more collaboration between departments.

Conclusions: New ways to increase integration at workplaces, especially rural workplaces are needed. More comprehensive interventions that include management are also needed.

Weblink

Title Airborne particulate matter: human exposure and health effects
Author/s Thompson, J
Source Journal of occupational and environmental medicine May 2018 60 5 392–423 doi: 10.1097/JOM.0000000000001277
Abstract Objective: Exposure to airborne particulate matter (PM) is estimated to cause millions of premature deaths annually. This work conveys known routes of exposure to PM and resultant health effects.
Methods: A review of available literature.
Results: Estimates for daily PM exposure are provided. Known mechanisms by which insoluble particles are transported and removed from the body are discussed. Biological effects of PM, including immune response, cytotoxicity, and mutagenicity, are reported. Epidemiological studies that outline the systemic health effects of PM are presented.
Conclusion: While the integrated, per capita, exposure of PM for a large fraction of the first world may be less than 1 mg per day, links between several syndromes, including attention deficit hyperactivity disorder (ADHD), autism, loss of cognitive function, anxiety, asthma, chronic obstructive pulmonary disease (COPD), hypertension, stroke, and PM exposure have been suggested. This article reviews and summarizes such links reported in the literature.

Weblink

Title Directive and nondirective social support in the workplace – is this social support distinction important for subjective health complaints, job satisfaction, and perception of job demands and job control?
Author/s Langjordet, T et al
Source Scandinavian journal of public health 46 3 358-367 special issue: working life and health
Abstract Aims: Social support is associated with well-being and positive health outcomes. However, positive outcomes of social support might be more dependent on the way support is provided than the amount of support received. A distinction can be made between directive social support, where the provider resumes responsibility, and nondirective social support, where the receiver has the control. This study examined the relationship between directive and nondirective social support, and subjective health complaints, job satisfaction and perception of job demands and job control.
Methods: A survey was conducted among 957 Norwegian employees, working in 114 private kindergartens (mean age 40.7 years, SD = 10.5, 92.8% female), as part of a randomized controlled trial. This study used only baseline data. A factor analysis of the Norwegian version of the Social Support Inventory was conducted, identifying two factors: nondirective and directive social support. Hierarchical regression analyses were then performed.
Results: Nondirective social support was related to fewer musculoskeletal and pseudoneurological complaints, higher job satisfaction, and the perception of lower job demands and higher job control. Directive social support had the opposite relationship, but was not statistically significant for pseudoneurological complaints. Conclusions: It appears that for social support to be positively related with job characteristics and subjective health complaints, it has to be nondirective. Directive social support was not only without any association, but had a significant negative relationship with several of the variables. Nondirective social support may be an important factor to consider when aiming to improve the psychosocial work environment.

Return to top
Reasons for using workplace wellness services: cross-sectional study among 6000 employees

Aims: While workplace wellness services are proactively established to improve well-being and reduce sickness absence, knowledge of reasons for using these services remains sparse. This study investigates which factors determine use of an in-house wellness service at a large organization (the Danish Police) with several departments in different geographical locations.

Methods: All potential users of the Wellness service (n = 15,284) were invited to respond to a cross-sectional questionnaire. Of 6060 eligible respondents, 58% had used the service at least once (any use) and 17% had used the service at least three times (frequent users). Two items assessed the frequency of statements of justifications for using or not using the Wellness service. Associations between 32 demographic and psychosocial variables and use of the Wellness service were evaluated with unadjusted bivariate logistic regression analyses.

Results: The two primary justifications for using the Wellness service were: to get a blood pressure assessment (37%) and to rehabilitate injury (26%). The two most common justifications for not using the Wellness service were: no perceived need (44%) and already physically active (34%). Of the 32 demographical and psychosocial variables included, 28 were associated with any use and 24 with frequent use.

Conclusions: Use of the Wellness service appears to be driven by a complex configuration of factors that resist easy translation into practical advice. Non-participation was accounted for in terms of both positive and negative barriers. Use of the service for purposes of primary prevention and health promotion was, relatively speaking, lagging behind.
The quick wins paradox

Van Buren, Mark E. Safferstone, Todd

Harvard business review 87 1 54-61 8.2.21.

Many leaders taking on new roles try to prove themselves early on by going after quick wins -- fresh, visible contributions to the business. But in the pursuit of early results, those leaders often fall into traps that prevent them from benefiting from their achievements. To succeed in their new positions, leaders must realize that the teams they have inherited are also experiencing change. Instead of focusing on an individual accomplishment, leaders need to work with team members on a collective quick win. In a study of more than 5,400 new leaders, the authors found that those who were struggling tended to exhibit five behaviors characteristic of people overly intent on securing a quick win. They focused too much on details, reacted negatively to criticism, intimidated others, jumped to conclusions, and micromanaged their direct reports. Some managed to eke out a win anyway, but the fallout was often toxic. The leaders who were thriving in their new roles, by contrast, shared not only a strong focus on results -- necessary for early successes -- but also excellent change-management skills. They communicated a clear vision, developed constructive relationships, and built team capabilities. They seemed to realize that the lasting value of their accomplishment would be the way they managed their teams through the transition. Collective quick wins established credibility and prepared them to lead their teams to harder-won victories. The authors provide a diagnostic tool for identifying opportunities for collective quick wins, and they share some advice for organizations: When grooming new leaders, don’t just shore up their domain knowledge and technical skills; help them develop the change-management skills they will need as they settle in with their new teams.

Comparably survey: the worst traits in a manager?

Comparably 2018

A survey reported on the ABC Best Practice show about leadership and management. The drop-down menu lists twenty questions which were used in the Comparably survey to find out the worst traits in a manager. Choosing the See infographics tab displays results. A plethora of reactions included being too critical, being disorganised and being impatient. But micromanagement came out on top.

Effects of positive and negative feedback sequence on work performance and emotional responses

Choi, E et al

Journal of organizational behavior management 38 2018 2-3
https://doi.org/10.1080/01608061.2017.1423151

Performance feedback has been broadly used within Organizational Behavior Management. However, the specifics regarding the most effective type of feedback still merits careful investigation, including the use of positive and negative sequences of feedback. The current study randomly assigned participants to receive one of the following sequences: (a) positive-positive feedback, (b) positive-negative feedback, (c) negative-positive feedback, and (d) negative-negative feedback. Uniform feedback delivery resulted in higher performance, although inconsistent feedback resulted in lessened negative emotional responses. Recommendations on whether to deliver positive or negative feedback in isolation or combination may depend upon the outcomes currently being prioritized by the organization.
A literature review of organizational behavior management interventions in human service settings from 1990 to 2016

Nicole Gravina et al


We reviewed the Journal of Applied Behavior Analysis (JABA), Journal of Organizational Behavior Management (JOBM), and Behavior Analysis in Practice (BAP) from 1990 to 2016, to identify articles that evaluated organizational behavior management interventions in a human service setting. Of those articles, 75 articles met the inclusion criteria for the review, 44 from JABA (1990 to 2016), 22 from JOBM (1990 to 2016), and 7 from BAP (2008 to 2016). We categorized each selected article by setting, employee population, client population, assessment, dependent variable, independent variable, and outcome measures. Results from the review are discussed for all three journals. Recommendations are made to broaden the scope of population and dependent variable targets, include more assessments, and include outcome data when applicable.

Are the neck positions and muscle activity observed when reading a tablet similar to that of the cervical flexion-relaxation onset?

Ethan C. Douglas & Kaitlin M. Gallagher (2018)

IISE transactions on occupational ergonomics and human factors 6 1 43-50 DOI: 10.1080/24725838.2018.1450310

Occupational applications Tablet use has become more common in the workplace and people typically use neck flexion interacting with them. In this position, it is common to observe that the cervical extensor muscles go “silent” just before full flexion and the deeper muscles of the spine and other passive tissues support the head. We found that the neck posture adopted when a person is reading a tablet is before the onset when of this phenomenon occurs and that the measured neck extensor muscles are still relatively active. Three participants, though, approached the onset position. This could represent reliance on deeper muscles and passive tissues for head support. These results suggest that practitioners need to educate their patients and employees on risk factors related to mobile computing usage and specifically determine ways to limit neck flexion when using these devices.

Technical abstract Background: Use of mobile devices at work and home continues to rise. Prolonged neck flexion has been identified as a potential risk factor for neck pain and is a posture commonly used when interacting with these devices. When a person moves their head into flexion, it is common to the flexion-relaxation phenomenon, in which the cervical extensor muscles go “silent” just before full flexion and deeper muscles of the spine and other tissues, such as ligaments, support the head. Purpose: Compare neck position and muscle activity when reading a tablet computer to the flexion-relaxation onset.

Methods: Fourteen participants were instrumented with electromyography and reflective markers to measure cervical extensor muscle activity and neck angle, respectively. They performed a cervical flexion-relaxation test, followed by two one-minute trials of reading a tablet on their lap or a table. Results: The flexion-relaxation phenomenon was shown in 12 of 14 participants. There was a significant difference between the cervical flexion relaxation onset (82% range of motion (ROM)) and the neck position for the lap (59% ROM) and table (29% ROM). Cervical extensor muscle activity was significantly higher when reading the tablet (15%–17% MVC) compared to the relaxation phase (8% MVC).

Conclusions: Reading a tablet computer in the tested conditions did not exceed the cervical
Weblink flexion-relaxation onset position. Some participants were within 5% ROM of their onset position, and future work should address the potential that positioning the mobile

Title A detailed description of the short-term musculoskeletal and cognitive effects of prolonged standing for office computer work

Author/s Baker, R et al

Source Ergonomics 2018 61 7 877-890

Abstract Due to concerns about excessive sedentary exposure for office workers, alternate work positions such as standing are being trialled. However, prolonged standing may have health and productivity impacts, which this study assessed. Twenty adult participants undertook two hours of laboratory-based standing computer work to investigate changes in discomfort and cognitive function, along with muscle fatigue, movement, lower limb swelling and mental state. Over time, discomfort increased in all body areas (total body IRR [95% confidence interval]: 1.47[1.36–1.59]). Sustained attention reaction time ($\beta = 18.25[8.00–28.51]$) deteriorated, while creative problem solving improved ($\beta = 0.89[0.29–1.49]$). There was no change in erector spinae, rectus femoris, biceps femoris or tibialis anterior muscle fatigue; low back angle changed towards less lordosis, pelvis movement increased, lower limb swelling increased and mental state decreased. Body discomfort was positively correlated with mental state. The observed changes suggest replacing office work sitting with standing should be done with caution.

Practitioner Summary: Standing is being used to replace sitting by office workers; however, there are health risks associated with prolonged standing. In a laboratory study involving 2 h prolonged standing discomfort increased (all body areas), reaction time and mental state deteriorated while creative problem-solving improved. Prolonged standing should be undertaken with caution.

Weblink Development of an ergonomic tool to predict carpal tunnel syndrome risk based on estimated carpal tunnel pressure

Author/s Justin A. Weresch & Peter J. Keir

Source IISE transactions on occupational ergonomics and human factors 6:1, 32-42, DOI: 10.1080/24725838.2018.1454360

Abstract Occupational applications an ergonomic tool that predicts Carpal Tunnel Syndrome (CTS) risk based on predicted carpal tunnel pressure (CTP) was developed and a preliminary evaluation was made in a large manufacturing environment. Elevated CTP has been associated with CTS. However, CTP is invasive to measure in vivo, and is thus not practical in an applied setting. This project represents the development of an ergonomic tool based on predicted CTP that could be an asset to ergonomists both in job evaluation and (re)design to reduce occupational CTS risk in workers with otherwise normal wrists.

Technical abstract Background: CTS remains an important issue in the workplace. Increased carpal tunnel pressure (CTP) may lead to the aggravation or development of CTS. A CTP of 30 mmHg has been used as a threshold limit value for CTS risk. Deviation from a neutral wrist, neutral forearm, and relaxed fingers results in an increase in CTP. Fingertip loading has also been shown to increase CTP independently of posture. Purpose: To develop an ergonomic tool to predict carpal tunnel syndrome (CTS) risk based on the predicted carpal tunnel pressure (CTP) in healthy wrists.

Method: A tool was developed to predict CTS-risk based on CTP determined from the literature. The tool was evaluated by comparing the output of the tool (CTS risk) to the incidence of CTS in a large manufacturing environment. Results: The model predicted a mean (S), time-weighted CTP of 21.3 (0.4) mmHg (range 18.5–27.8 mmHg). Evaluative results were promising, as CTS risk was slightly higher in jobs with a historical incidence of CTS. Conclusion: While the tool predicted CTS risk based on CTP, too few CTS claims existed to develop a strong correlation. Further refinement and investigation are needed to include combined postures and mechanical compression, and to further validate the tool
Title: Differences in lower limb muscle activation and centre of pressure movement between expert workers and novices in simulated maritime environments

Author/s: Duncan, CA et al

Source: IIESE transactions on occupational ergonomics and human factors 6 1 21-31 DOI: 10.1080/24725838.2018.1450309

Abstract: Occupational applications Better understanding of lower limb muscle activations and habituation processes has implications for injury prevention. This study examined the influence of repeated exposures to simulated wave motions on lower limb muscle activity. Our findings suggest that, at least while standing, novice maritime workers can quickly adapt their lower extremity muscle activity and, to a lesser extent, their center of pressure movement, so that is similar to expert maritime workers. These decreases in muscle activations with repeated exposures suggest that individuals can adapt rapidly to the motions to decrease muscle fatigue and the risk of falling. Such information should therefore be considered when developing ergonomic interventions for maritime occupations such as ship design and training for new workers.

Technical abstract Background: Work in moving environments, such as maritime workplaces, exposes workers to unique neuromuscular control challenges that may increase risk of falls or fatigue-related injury. Purpose: The purpose of this study was to determine if muscle activations differ based on previous experience working in a moving environment and/or with repeated exposure to the same motions. Methods: Twelve individuals with no maritime work experience, and 14 individuals with maritime work experience, were exposed to five 5-minute trials of simulated maritime motion. Electromyography (EMG) was collected bilaterally from several lower-extremity muscles and center of pressure was collected using a pressure mat over the full duration of all of the trials. EMG data were normalized to maximal voluntary isometric contractions (MVICs) collected before the trials, and then compared between groups and trials. Results: Muscle activation in both groups significantly increased with motion exposure, however the activation amplitudes were lower in the experienced (346% increase) vs. the novice group (542% increase). With repeated exposure to the five motion trials, muscle activations for all individuals gradually decreased from trial 1 (∼5–15%MVIC) to trial 5 (∼1.5–4.5%MVIC). Conclusions: While all individuals demonstrated adaptations with repeated exposures, those with experience working in maritime environments adopted postural responses that required substantially less activation of the lower limb muscles. This difference may be due, at least in part, to these individuals having adapted postural control strategies to optimize stability. The decrease in muscle activation observed with repeated exposure to the motion profile suggests that individuals can adapt rapidly to the destabilizing nature of the motion profiles, implying that they are learning to adopt more efficient postural control strategies.

Title: Multi-site musculoskeletal pain in Swedish police: associations with discomfort from wearing mandatory equipment and prolonged sitting

Author/s: Larsen, L.B et al


Abstract: Purpose Musculoskeletal disorders are considered as a major issue affecting the health and well-being of active duty police. Discomfort from wearing mandatory equipment and sitting for long periods of time in fleet vehicles are workload factors linked to musculoskeletal disorders in police. This study aims to determine the prevalence of multi-site musculoskeletal pain among Swedish police and to explore the possible association to discomfort experience when wearing mandatory equipment and sitting for long periods in fleet vehicles. Methods In this cross-sectional study responses from 4185 police were collected through a self-administered online survey including questions about physical work environment, mandatory equipment and musculoskeletal pain. Multi-site pain was determined through summing pain sites from four body regions. Binomial logistic regression was performed to explore the association between multi-site musculoskeletal pain: (1) discomfort from wearing mandatory equipment and (2) sitting for long periods in fleet vehicles. Results The prevalence of multi-site musculoskeletal pain at least 1 day per week within the
previous 3 months was 41.3%. A statistically significant association between discomfort from wearing mandatory equipment and multi-site musculoskeletal pain was found; duty belt [OR 5.42 (95% CI 4.56–6.43)] as well as body armour [OR 2.69 (95% CI 2.11–3.42)]. Sitting for long periods in fleet vehicles was not significantly associated to multi-site musculoskeletal pain.

Conclusion Multi-site musculoskeletal pain is a considerable problem among Swedish police and modifying mandatory equipment to decrease discomfort is suggested as a potential means of decreasing the musculoskeletal pain experienced by many police officers.

Title Outcomes following carpal tunnel release in patients receiving workers’ compensation: a systematic review
Author/s Dunn, JC et al
Source Hand March 2018 132 137-142 https://doi.org/10.1177/1558944717701240
Abstract Background: Carpal tunnel syndrome (CTS) is a common occupational pathology, representing a high percentage of workers’ compensation (WC) claims.
Methods: The literature was reviewed for all studies evaluating CTS outcomes including WC patients between 1993 and 2016. A total of 348 articles were identified; 25 of which met inclusion and exclusion criteria. A systematic review was generated; patient demographics, outcomes, and complications were recorded. Weighted averages were calculated for the demographic and outcome data. Categorical data such as complications were pooled from the studies and used to determine the overall complication rate. Statistical significance was determined between WC and non-WC cohorts when applicable with the chi-square statistic.
Results: The WC cohort included 1586 wrists, and the non-WC cohort included 2781 wrists. The WC cohort was younger and more often involved the dominant extremity. The WC cohort was less likely to have appropriate physical exam findings confirming diagnosis and electrodiagnostic studies. WC patients took almost 5 weeks longer to return to work, were 16% less likely to return to preinjury vocation, and had lower Standard Form (SF)-36 scores. Finally, WC patients had nearly 3 times the number of complications and nearly twice the rate of persistent pain.
Conclusions: WC patients undergoing carpal tunnel release (CTR) fare poorly as compared with non-WC patients in nearly every metric. Higher rates of postoperative pain with delayed return to work can be anticipated in a WC cohort. In addition, WC patients receive suboptimal preoperative workup, and it is possible that unnecessary surgery is being completed in these cases. These findings are important to consider when treating the WC patient with CTS

Title Chronic low back pain: a successful intervention for desk-bound workers – commentary
Author/s Dennerlein, JT
Source Occupational & environmental medicine 2018 75 5
Abstract Barone Gibbs et al 1 present a small experimental study demonstrating the positive effects of an intervention with the goal of decreasing sedentary behaviour for desk-bound workers with chronic low back pain. The intervention had multiple components that included a combination of individual cognitive and behaviour-based counselling and a change in the work environment (workstation), all of which were supported by each participant’s supervisor. The wider implications is that this study provides supporting evidence that interventions targeting worker behaviour addressing chronic health issues that change the conditions of work have greater effect than single-component interventions.

Title Reducing sedentary behaviour to decrease chronic low back pain: the stand back randomised trial
Author/s Barone Gibbs, Bet al
Objective the Stand Back study evaluated the feasibility and effects of a multicomponent intervention targeting reduced prolonged sitting and pain self-management in desk workers with chronic low back pain (LBP).

Methods This randomised controlled trial recruited 27 individuals with chronic LBP, Oswestry Disability Index (ODI) >10% and desk jobs (sitting ≥20 hours/week). Participants were randomised within strata of ODI (>10%–<20%, ≥20%) to receive bimonthly behavioural counselling (in-person and telephone), a sit-stand desk attachment, a wrist-worn activity-prompting device and cognitive behavioural therapy for LBP self-management or control. Self-reported work sitting time, visual analogue scales (VAS) for LBP and the ODI were assessed by monthly, online questionnaires and compared across intervention groups using linear mixed models.

Results Baseline mean (SD) age was 52 (11) years, 78% were women, and ODI was 24.1 (10.5)%. Across the 6-month follow-up in models adjusted for baseline value, work sitting time was 1.5 hour/day (P<0.001) lower comparing intervention to controls. Also across follow-up, ODI was on average 8 points lower in intervention versus control (P=0.001). At 6 months, the relative decrease in ODI from baseline was 50% in intervention and 14% in control (P=0.042). LBP from VAS was not significantly reduced in intervention versus control, though small-to-moderate effect sizes favouring the intervention were observed (Cohen's d ranged from 0.22 to 0.42).

Conclusion An intervention coupling behavioural counselling targeting reduced sedentary behaviour and pain self-management is a translatable treatment strategy that shows promise for treating chronic LBP in desk-bound employees.
Abstract

In line with the EU Strategic Framework on Safety and Health at Work 2014-2020, one of EU-OSHA’s priorities is to support the prevention of work-related diseases. The aim is not only to improve the lives of individual workers, but also to minimise the costs of work-related illnesses and deaths. The number of workplace accidents has decreased by 25% over the last 10 years. However, work-related diseases still account for an estimated 2.4 million deaths worldwide each year, 200,000 of which are in Europe. EU-OSHA’s work on work-related diseases aims to provide an evidence base for prevention, policy and practice. Another important objective is to provide a better overview of the extent of the occupational burden of disease.

Title

Immersion of virtual reality for rehabilitation - review

Author/s

Rose, Tyler et al

Source

Applied Ergonomics May 2018 69 153-161 9

Abstract

Virtual reality (VR) shows promise in the application of healthcare and because it presents patients an immersive, often entertaining, approach to accomplish the goal of improvement in performance. Eighteen studies were reviewed to understand human performance and health outcomes after utilizing VR rehabilitation systems. We aimed to understand: (1) the influence of immersion in VR performance and health outcomes; (2) the relationship between enjoyment and potential patient adherence to VR rehabilitation routine; and (3) the influence of haptic feedback on performance in VR. Performance measures including postural stability, navigation task performance, and joint mobility showed varying relations to immersion.

Limited data did not allow a solid conclusion between enjoyment and adherence, but patient enjoyment and willingness to participate were reported in care plans that incorporates VR. Finally, different haptic devices such as gloves and controllers provided both strengths and weakness in areas such movement velocity, movement accuracy, and path efficiency.

Title


Author/s

Orlandi, Luca et al

Source

Applied Ergonomics May 2018 69 74-92 19

Abstract

This paper investigates the effects of shiphandling manoeuvres on mental workload and physiological reactions in ten marine pilots. Each pilot performed four berthings in a ship simulator. Those berthings were differentiated by two factors, level of difficulty and familiarity with the port. Each berthing could also be divided into five phases, three during the execution and two resting periods, one before and one after the execution (dedicated to baseline physiological data collection). Mental workload was measured through two self-assessment scales: the NASA TLX and a Likert scale. Power spectral densities on Beta bands 1 and 2 were obtained from EEG. Heart rate and heart rate variability were obtained from ECG. Pupil dilation was obtained from eye tracking. Workload levels were higher as berthings increased in difficulty level and/or the pilots completed the berthings in unfamiliar ports. Responses differed across specific phases of the berthings. Physiological responses could indirectly monitor levels of mental workload, and could be adopted in future applications to evaluate training improvements and performance. This study provides an example of an applied methodology aiming to define an upper redline of task demands in the context of marine pilotage.

Title

Tablet form factors and swipe gesture designs affect thumb biomechanics and performance during two-handed use

Author/s

Coppola, Sarah M et al
Tablet computers’ hardware and software designs may affect upper extremity muscle activity and postures. This study investigated the hypothesis that forearm muscle activity as well as wrist and thumb postures differ during simple gestures across different tablet form factors and touchscreen locations. Sixteen adult (8 female, 8 male) participants completed 320 tablet gestures across four swipe locations, with various tablet sizes (8" and 10"), tablet orientations (portrait and landscape), swipe orientations (vertical and horizontal), and swipe directions (medial and radial). Three-dimensional motion analysis and surface electromyography measured wrist and thumb postures and forearm muscle activity, respectively. Postures and muscle activity varied significantly across the four swipe locations (p < .0001). Overall, swipe location closest to the palm allowed users to swipe with a more neutral thumb and wrist posture and required less forearm muscle activity. Greater thumb extension and abduction along with greater wrist extension and ulnar deviation was required to reach the target as the target moved farther from the palm. Extensor Carpi Radialis, Extensor Carpi Ulnaris, Flexor Carpi Ulnaris, Extensor Pollicis Brevis, and Abductor Pollicis Longus muscle activity also increased significantly with greater thumb reach (p < 0.01). Larger tablet size induced greater Extensor Carpi Radialis, Extensor Carpi Ulnaris, Flexor Carpi Ulnaris, Flexor Carpi Radialis, and Abductor Pollicis Longus muscle activity (p < .0001). The study results demonstrate the importance of swipe locations and suggest that the tablet interface design can be improved to induce more neutral thumb and wrist posture along with lower forearm muscle load.

Can building design impact physical activity? a natural experiment

Eyele, A et al

Abstract
Background: Workplace design can impact workday physical activity (PA) and sedentary time. The purpose of this study was to evaluate PA behavior among university employees before and after moving into a new building. Methods: A pre–post, experimental versus control group study design was used. PA data were collected using surveys and accelerometers from university faculty and staff. Accelerometry was used to compare those moving into the new building (MOVERS) and those remaining in existing buildings (NONMOVERS) and from a control group (CONTROLS). Results: Survey results showed increased self-reported PA for MOVERS and NONMOVERS. All 3 groups significantly increased in objectively collected daily energy expenditure and steps per day. The greatest steps per day increase was in CONTROLS (29.8%) compared with MOVERS (27.5%) and NONMOVERS (15.9%), but there were no significant differences between groups at pretest or posttest. Conclusions: Self-reported and objectively measured PA increased from pretest to posttest in all groups; thus, the increase cannot be attributed to the new building. Confounding factors may include contamination bias due to proximity of control site to experimental site and introduction of a university PA tracking contest during postdata collection. Methodology and results can inform future studies on best design practices for increasing PA.

The relationship between work organization and technology has been conceptualized in economic and sociological studies in a variety of ways, depending on the authors’ ontological premises and use of terminology (e.g., Leonardi & Barley, 2010; Mackenzie & Wajcman, 1985). For one thing, many economic analyses have not even regarded work organization as an analytical entity in itself but rather as a subcategory under an umbrella category of ‘technology’. In cases like this, the concept of technology has been used in the broad sense, also referring to human activities and know-how to do things. In many classical and modern sociological studies of work, the analytical distinction between work organization and
technology has been of crucial importance, often based on a narrower concept of technology as a set of physical objects (...)

**Title**
Worksite physical activity breaks: perspectives on feasibility of implementation

**Author/s**
Bramante, C

**Source**
*Work* 59 4 491-499 2018 DOI: 10.3233/WOR-182704

**Abstract**
Background: Worksites offer a unique opportunity to increase physical activity in persons with both active and sedentary lifestyles.

Objective: The objective of this study was to examine employee and supervisor perspectives on feasibility and acceptability of 10-minute Instant Recess® physical activity videos in the worksite. Methods: Convenience sample of public and private worksites in Minneapolis/St. Paul, MN. Employees (n=187) at 13 worksites were recruited by a one-time email invitation to participate in a group Instant Recess break and complete a 15-question survey. One supervisor per site participated in a one-on-one interview to assess suggestions for feasibility of implementation. Likert-type survey responses were averaged per worksite and overall. Interview results were recorded, transcribed, and coded by two authors.

Results: Employees were extremely positive about enjoyment, increased productivity, comfort, and feasibility of doing Instant Recess at the same time and place every day (score=4.29, 4.17, 4.25, and 4.37 out of 5, respectively). However, they did not feel comfortable leading an Instant Recess break (score=2.68 out of 5). Supervisors voiced during the one-on-one interviews that they enjoyed Instant Recess (13 out of 13 supervisors), were enthusiastic about Instant Recess as a simple and cost-effective entry into worksite wellness (11 out of 13 supervisors), and felt that Instant Recess could be institutionalized by offering it daily at a set time and place (13 out of 13 supervisors).

Conclusions: Employees and supervisors at various worksites believed that it is feasible and desirable to offer 10-minute physical activity breaks using videos during the workday

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**Title**
Organisational factors and occupational balance in working parents in Sweden

**Author/s**
Borgh, M et al

**Source**
*Scandinavian journal of public health* 46 3 409-416 special issue: working life and health

**Abstract**
Background: Parents with small children constitute a vulnerable group as they have an increased risk of sick leave due to stress-related disorders compared to adults without children. It has been shown that mothers and fathers to small children together spend more time in paid work than any other group, which could create negative stress and an experience of low occupational balance. Aim: The aim of this study was to examine associations between organisational factors and occupational balance among parents with small children in Sweden.

Methods: Data were collected by a survey including questions about occupational balance, organisational factors and age, sex, employment rate, work position, monthly household income, number of children at home, separation/divorce last five years and overtime. The total number of parents included in this study was 718 (490 mothers and 228 fathers). Logistic regression models were applied to examine the odds ratios for occupational balance in relation to organisational factors.

Results: Parents who experienced positive attitudes towards parenthood and parental leave among colleagues and managers were more likely to experience high occupational balance than parents who experienced negative or neutral attitudes. Having a clear structure for handover when absent from work was also strongly associated with high occupational balance.

Conclusions: The result of the present study indicates that some organisational factors could be important for the occupational balance of parents with small children
Employers’ views of the impact of mental health problems on the ability to work

Jansson, I Gunnarsson, AB

Work 59 4 585-598 2018 DOI: 10.3233/WOR-182700

Background: Mental health problems (MHP) are common in working life and can be hard to respond to for employers. Therefore, knowledge of employers’ perceptions of employees with MHP is important to support coping efforts of persons and their work environments.

Objective: Identify and characterise employers’ perceptions of the impact of MHP on work ability.

Methods: Twelve employers with experience of employees with MHP were interviewed. Data were analysed with a phenomenographic method.

Results: The first main category, “Experiences of employees with MHP”, included experiences of diffuse and unexpressed signs of the onset of MHP and frustration among employers and work-mates which was difficult to verbalise. MHP could also be turned off, thus having no impact on work ability. The second main category, “Strategies to handle effects of MHP in the workplace”, included the importance of continual responsiveness and communication, and of fluctuating adaptations. The informants expressed diversity in the workplace as a strategy.

Conclusions: Employers have experiences of, as well as strategies for, how to handle MHP at times when they impact with the ability to work. However, neither experiences nor strategies were explicitly pronounced and verbalised which makes it a challenge to develop strategies and guidelines in workplaces.

How do supervisors perceive and manage employee mental health issues in their workplaces?

Krish, B Kruper T Luong, D

Work 59 4 547-555 2018 DOI: 10.3233/WOR-182698

Background: Organizations have become increasingly concerned about mental health issues in the workplace as the economic and social costs of the problem continue to grow. Addressing employees’ mental health problems and the stigma that accompanies them often falls to supervisors, key people in influencing employment pathways and the social climate of the workplace.

Objective: This study examines how supervisors experience and perceive mental illness and stigma in their workplaces. It was conducted under the mandate of the Mental Health Commission of Canada’s Opening Minds initiative.

Methods: The study was informed by a theoretical framework of stigma in the workplace and employed a qualitative approach. Eleven supervisors were interviewed and data were analyzed for major themes using established procedures for conventional content analysis.

Results: Themes relate to: perceptions of the supervisory role relative to managing mental health problems at the workplace; and supervisors’ perceptions of mental health issues at the workplace; and supervisors’ experiences of managing mental health issues at work. The research reveals the tensions supervisors experience as they carry out responsibilities that are meant to benefit both the individual and workplace, and protect their own well-being as well.

Conclusion: This study emphasizes the salience of stigma and mental health issues for the supervisor’s role and illustrates the ways in which these issues intersect with the work of supervisors. It points to the need for future research and training in areas such as balancing privacy and supports, tailoring disclosure processes to suit individuals and workplaces, and managing self-care in the workplace.

Occupational gender composition and mild to severe depression in a Swedish cohort: the impact of psychosocial work factors

Nyberg, A

Scandinavian journal of public health 46 3 425-432 special issue: working life and health
Abstract
Aims: The aim of the present study was to investigate associations between occupational gender composition, psychosocial work factors and mild to severe depression in Swedish women and men with various educational backgrounds.
Methods: The study included 5560 participants from two waves of the Swedish Longitudinal Occupational Survey of Health, an approximately representative sample of the Swedish working population. Odds ratios (OR) and 95% confidence intervals of mild to severe depression in 2014 were estimated for five strata of occupational gender composition with >20–40%, >40–60%, >60–80% and >80–100% women, using 0–20% women as the reference. Analyses were stratified by gender and education. Job strain, organisational injustice, poor social support and effort–reward imbalance in 2012 were added in separate models, and changes in OR of mild to severe depression for strata of occupational gender composition were evaluated.
Results: Among women, the odds of mild to severe depression did not vary by occupational gender composition. Among men with low to intermediate education, the odds were higher in the stratum with >80–100% women, and among men with high education, the odds were higher in strata with >20–40% and >60–80% women. Psychosocial work factors affected the odds ratios of mild to severe depression, but most of the variation remained unexplained.
Conclusions: Odds of mild to severe depression appeared to vary by occupational gender composition among Swedish men but not women. This variation seemed only to a small extent to be explained by psychosocial work factors.

PSYCHOSOCIAL ISSUES

Title Working (longer than) 9 to 5: are there cardiometabolic health risks for young Australian workers who report longer than 38-h working weeks?
Author/s Reynolds, A.C et al
Source International archives of occupational & environmental health 2018 91 403
Abstract Purpose The average Australian working week in middle-aged and older workers exceeds government recommendations. Long working weeks are associated with poor health outcomes; however, the relationship between long working weeks and health in young Australian workers is unknown.
Methods Data were drawn from the 22-year follow-up of the Western Australian Pregnancy Cohort (Raine) Study in Perth, Western Australia. Information was available from 873 young adults about working hours per week, shift work and sleep duration. Blood samples provided measures of cardiometabolic risk (CMR) factors.
Results Almost one-third (32.8%) of young workers reported > 38 h working weeks. This was commonly reported in mining and construction industries for males; health and social assistance, mining and retail trade industries for females. CMR factors including increased waist circumference, higher fasting plasma glucose and reduced HDL cholesterol were associated with > 38 h working weeks. These relationships were not moderated by gender or by BMI for glucose and HDL cholesterol. Total sleep time was significantly lower in both male and female workers reporting > 38 h working weeks, but did not mediate the relationships seen with CMR factors.
Conclusions These findings point to early associations between > 38 h working weeks and CMR risk, and highlight the potential benefit of making young employees aware of the health associations with working arrangements to reduce the longer-term relationships seen with working hours and poor cardiometabolic health in population studies.

Title Emotional and cognitive influences in air traffic controller tasks: an investigation using a virtual environment?
Author/s Truschzinski, Martina
Abstract
Air traffic controllers are required to perform complex tasks which require attention and high precision. This study investigates how the difficulty of such tasks influences emotional states, cognitive workload and task performance. We use quantitative and qualitative measurements, including the recording of pupil dilation and changes in affect using questionnaires. Participants were required to perform a number of air traffic control tasks using the immersive human accessible Virtual Reality space in the “eXperience Induction Machine”. Based on the data collected, we developed and validated a model which integrates personality, workload and affective theories. Our results indicate that the difficulty of an air traffic control task has a direct influence on cognitive workload as well as on the self-reported mood; whereas both mood and workload seem to change independently. In addition, we show that personality, in particular neuroticism, affects both mood and performance of the participants.
Abstract

Objectives This systematic review and meta-analysis combined published study-level data and unpublished individual-participant data with the aim of quantifying the relation between long working hours and the onset of depressive symptoms.

Methods We searched PubMed and Embase for published prospective cohort studies and included available cohorts with unpublished individual-participant data. We used a random-effects meta-analysis to calculate summary estimates across studies.

Results We identified ten published cohort studies and included unpublished individual-participant data from 18 studies. In the majority of cohorts, long working hours was defined as working ≥55 hours per week. In multivariable-adjusted meta-analyses of 189,729 participants from 35 countries (96,275 men, 93,454 women, follow-up ranging from 1–5 years, 21,747 new-onset cases), there was an overall association of 1.14 (95% confidence interval (CI) 1.03–1.25) between long working hours and the onset of depressive symptoms, with significant evidence of heterogeneity (I²=45.1%, P=0.004). A moderate association between working hours and depressive symptoms was found in Asian countries (1.50, 95% CI 1.13–2.01), a weaker association in Europe (1.11, 95% CI 1.00–1.22), and no association in North America (0.97, 95% CI 0.70–1.34) or Australia (0.95, 95% CI 0.70–1.29). Differences by other characteristics were small.

Conclusions This observational evidence suggests a moderate association between long working hours and onset of depressive symptoms in Asia and a small association in Europe.
private-sector companies filled in a questionnaire on workplace social capital and covariates. WASC was calculated by assigning the company-averaged social capital score to all employees of each company. We derived LTSA, defined as sickness absence of more than three weeks, from a national register. We examined if WASC predicted employee LTSA using multilevel survival analyses, while excluding participants with LTSA in the three months preceding baseline. Results: We found no statistically significant association in any of the analyses. The hazard ratio for LTSA in the fully adjusted model was 0.93 (95% CI 0.77–1.13) per one standard deviation increase in WASC. When using WASC as a categorical exposure we found a statistically non-significant tendency towards a decreased risk of LTSA in employees with medium WASC (fully adjusted model: HR 0.78 (95% CI 0.48–1.27)). Post hoc analyses with workplace social capital as a resource of the individual showed similar results. Conclusions: WASC did not predict LTSA in this sample of Danish private-sector employees.
found idiomatic issues requiring reformulation in the instructions, four …items in the Norwegian version, and three items in the Danish version, respectively. In the final versions, seven items were adjusted in each country. Psychometric properties were analysed for the Norwegian sample (n=40) and preliminary Cronbach’s alpha coefficients were satisfactory. A final consensus process was performed to achieve similar titles and introductions. Conclusions: The WRFQ 2.0 cross-cultural adaptation to Norwegian and Danish was performed and consensus was obtained. Future validation studies will examine validity, reliability, responsiveness and differential item response. The WRFQ can be used to elucidate both individual and work environmental factors leading to a more holistic approach in work rehabilitation.

**RETURN TO WORK**

**Title**  
The efficacy and efficiency of disability management in job-retention and job-reintegration. a systematic review

**Author/s**  
Lefever, M et al

**Source**  
Work 59 4 501-534 2018 DOI: 10.3233/WOR-182709

**Abstract**  
Background: Disability management (DM) is a systematic method to ensure job-retention and job-reintegration in competitive employment for individuals with a disability. There is evidence that ‘returning to work’ has a positive impact on the individual, the company and on the society. However, a clear overview of the efficacy and efficiency of the DM programs is scarce.

Objective: To systematically review the efficacy and efficiency of the disability management programs. Cochrane, PubMed, Google Scholar, and Web of Science were searched from 1994 to 2015.

Methods: Two reviewers independently evaluated the articles on title, abstract, and full text. The data extraction and results are documented according to the study designs.

Results: Twenty-eight articles were included in the review. These 28 articles consisted of 7 systematic reviews, 3 randomized controlled trials, 9 clinical trials, 4 mixed-method studies and 5 qualitative studies.

Conclusions: The DM program has shown to be effective and efficient. A consensus about the DM components is still not reached. Nevertheless, some components are emphasized more than others; job accommodation, facilitation of transitional duty, communication between all stakeholders, health care provider advice, early intervention, and acceptance, goodwill and trust in the stakeholders, in the organization, and in the disability management process.

**Title**  
Employment effects of a multidisciplinary health assessment for mentally ill persons – a quasi-randomised controlled trial

**Author/s**  
Hogelund, J Falgaard, Eplov, L

**Source**  
Scandinavian journal of public health 46 3 389-399 special issue: working life and health

**Abstract**  
Aim: Relatively little is known about the effectiveness of return-to-work interventions for employees sick-listed with mental disorders, and the results of the literature are contradictory. This study evaluated the return-to-work effect of a multidisciplinary health assessment for persons sick-listed with mental disorders.

Methods: The study population consisted of 244 persons who were allocated to the treatment and control groups based on their birth year. In addition to the usual case management, the treatment group (n = 83) was assessed by a team consisting of a case manager, a psychiatrist, and a job coach. The control group (n = 99) received the usual case management. We used unique register data to code outcome variables (sick-leave duration and return-to-work duration).

Results: The multidisciplinary treatment had no statistically significant effect on the sick-leave duration (HR = 1.05; 95% CI 0.74–1.43) or the return-to-work duration (HR = 0.94; 95% CI
Weblink

0.65–1.35). Subgroup analyses showed that the treatment effect did not systematically depend on age, education or severity of the mental disorder. We found no signs of systematic dropout from the study population or of imbalanced data. We found an insignificant tendency indicating that control-group case managers may have learned about the intervention from treatment case managers (p = 0.31).

Conclusions: This study showed no return-to-work effect of a multidisciplinary assessment of sick-listed individuals with mental disorders. Together with the sparse and inconclusive findings of the literature, this finding suggests that further research is needed for disentangling the elements that constitute an effective intervention.

Weblink

The experience of return to work self-efficacy among people on sick leave

Author/s
Lork, K Holmgren, K

Source
Work 59 4 479-490 2018 DOI: 10.3233/WOR-182697

Abstract
Background: In the complex interaction between individual and environmental factors the return to work self-efficacy (RTWSE) plays a key role. RTWSE is the belief in the capacity to meet the demands required for RTW.

Objective: The purpose of this study was to explore how individuals on sick leave experience their RTWSE.

Method: A modified phenomenology method was used. This perspective is useful in qualitative research to understand complex phenomena such as RTWSE. It was designed as an interview study and nine individuals participated in the age from 30 to 60 years.

Results: Four main themes with a total of ten sub-themes emerged from the analysis showing different aspects of RTWSE. The experience of working capacity in terms of health perception and the general sense of self-efficacy shaped the more specific RTWSE. The pursuit to towards an active and fulfilling life and regaining control together with autonomy and the experience of support from others influenced the RTWSE.

Conclusions: RTWSE is a global phenomenon reflecting the experience of vital parts of the life-world. RTWSE is about working capacity, but also concerns engagement in a meaningful occupation, being independent and participating. A holistic approach is therefore needed in order to strengthen self-efficacy

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SHIFT WORK

Title
Association between shiftwork and the risk of colorectal cancer in females: a population-based case–control study

Source
Occupational & environmental medicine May 2018 75 5 http://dx.doi.org/10.1136/oemed-2017-104657

Abstract
Objective: Research indicates that shiftwork may be associated with increased risks of adverse health outcomes, including some cancers. However, the evidence of an association between shiftwork and colorectal cancer risk is limited and inconclusive. Further, while several possible pathways through which shiftwork might result in cancer have been proposed, few studies have taken these factors into account. We investigated the association between two types of shiftwork (graveyard shiftwork and early-morning shiftwork) and six mechanistic shiftwork variables (including light at night and phase shift) and the risk of colorectal cancer among females in an Australian population-based case–control study. Graveyard shiftwork was the primary exposure of interest.

Methods: Participants (350 cases and 410 controls) completed a lifetime occupational history, and exposure to each of the eight shiftwork variables was assigned to participants through a job exposure matrix. We used logistic regression to calculate odds ratios (OR) and corresponding 95% confidence intervals (CI) for the association between different shiftwork variables and the risk of colorectal cancer, adjusting for potential demographic, lifestyle and medical confounders.
Results Working in an occupation involving long-term exposure (>7.5 years) to graveyard shiftwork was not associated with colorectal cancer risk (adjusted OR 0.95, 95% CI 0.57 to 1.58). Similarly, no increased risks of colorectal cancer were seen for any of the other seven shiftwork variables examined.

Conclusions No evidence of an increased risk of colorectal cancer among females who had worked in occupations involving shiftwork was observed in this study.
Weblink: Conclusions No evidence of an increased risk of colorectal cancer among females who had worked in occupations involving shiftwork was observed in this study.

Title: Risk of injury after evening and night work – findings from the Danish working hour database

Author/s: Nielsen, HB et al

Source: Scandinavian journal of work environment & health doi:10.5271/sjweh.3737

Abstract: Objectives Evening and night work have been associated with higher risk of injury than day work. However, previous findings may be affected by recall bias and unmeasured confounding from differences between day, evening and night workers. This study investigates whether evening and night work during the past week increases risk of injury when reducing recall bias and unmeasured confounding.

Methods: We linked daily working hours at the individual level of 69,200 employees (167,726 person years from 2008–2015), primarily working at hospitals to registry information on 11,834 injuries leading to emergency room visits or death. Analyses were conducted with Poisson regression models in the full population including permanent day, evening and night workers, and in two sub-populations of evening and night workers, with both day and evening or night work, respectively. Thus, the exchangeability between exposure and reference group was improved in the two sub-populations.

Results: Risk of injury was higher after a week with evening work (incidence rate ratio (IRR) 1.32, 95% confidence interval (CI) 1.26–1.37) and night work (IRR 1.33, 95% CI 1.25–1.41) compared with only day work. Similar, although attenuated, estimates were found for evening work among evening workers (IRR 1.18, 95% CI 1.12–1.25), and for night work among night workers (IRR 1.10, 95% CI 1.01–1.20).

Conclusion: There is an overall increased risk of injury after a week that has included evening or night work compared with only day work. Though attenuated, the higher risk remains after reducing unmeasured confounding.

Weblink: Shift work and the risk of cardiovascular disease. a systematic review and meta-analysis including dose–response relationship

Title: Shift work and the risk of cardiovascular disease. a systematic review and meta-analysis including dose–response relationship

Author/s: Torquati, L et al

Source: Scandinavian journal of work environment & health 2018 44 3 doi:10.5271/sjweh.3700

Abstract: Objectives: The aim of this review was to assess the risk of cardiovascular disease (CVD) events associated with shift work and determine if there is a dose–response relationship in this association.

Methods: Electronic databases (PubMed, Scopus, and Web of Science) were searched for cohort or case–control study designs in any population, reporting exposure to shift work as the main contributing factor to estimate CVD risk. For each study, adjusted relative risk (RR) ratios and 95% confidence intervals (CI) were extracted, and used to calculate the pooled RR using random-effect models. Meta-regression analysis was conducted to explore potential heterogeneity sources. Potential non-linear dose–response relationships were examined using fractional polynomial models.

Results: We included 21 studies with a total of 173,010 unique participants. The majority of the studies were ranked low-to-moderate risk of bias. The risk of any CVD event was 17% higher among shift workers than day workers. The risk of coronary heart disease (CHD) mortality was 26% higher (1.26, 95% CI 1.10–1.43, I^2= 48.0%). Sub-group analysis showed an almost 20% higher risk of CVD and CHD mortality among shift workers than those who did not work shifts (1.22, 95% CI 1.09–1.37, I^2= 0% and 1.18, 95% CI 1.06–1.32 I^2=0%; respectively). After the first five years of shift work, there was a 7.1% increase in risk of CVD events for every additional five years of exposure (95% CI 1.05–1.10). Heterogeneity of the pooled effect size (ES) estimates was high (I^2=67%), and meta-regression analysis showed that sample size explained 7.7% of this.

Conclusions: The association between shift work and CVD risk is non-linear and seems to appear only after the first five years of exposure. As shift work remains crucial for meeting...
production and service demands across many industries, policies and initiatives are needed to reduce shift workers’ CVD risk.

**Title**  
Shift work schedule and night work load: effects on body mass index – a four-year longitudinal study

**Author/s**  
Buchvold, HV et al

**Source**  
Scandinavian journal of work environment & health doi:10.5271/sjweh.3702

**Abstract**  
Objectives The aim of this study was to investigate changes in body mass index (BMI) between different work schedules and different average number of yearly night shifts over a four-year follow-up period.

Methods A prospective study of Norwegian nurses (N=2965) with different work schedules was conducted: day only, two-shift rotation (day and evening shifts), three-shift rotation (day, evening and night shifts), night only, those who changed towards night shifts, and those who changed away from schedules containing night shifts. Paired student’s t-tests were used to evaluate within subgroup changes in BMI. Multiple linear regression analysis was used to evaluate between groups effects on BMI when adjusting for BMI at baseline, sex, age, marital status, children living at home, and years since graduation. The same regression model was used to evaluate the effect of average number of yearly night shifts on BMI change.

Results We found that night workers [mean difference (MD) 1.30 (95% CI 0.70–1.90)], two shift workers [MD 0.48 (95% CI 0.20–0.75)], three shift workers [MD 0.46 (95% CI 0.30–0.62)], and those who changed work schedule away from [MD 0.57 (95% CI 0.17–0.84)] or towards night work [MD 0.63 (95% CI 0.20–1.05)] all had significant BMI gain (P<0.01) during the follow-up period. However, day workers had a non-significant BMI gain. Using adjusted multiple linear regressions, we found that night workers had significantly larger BMI gain compared to day workers [B=0.89 (95% CI 0.06–1.72), P<0.05]. We did not find any significant association between average number of yearly night shifts and BMI change using our multiple linear regression model.

Conclusions After adjusting for possible confounders, we found that BMI increased significantly more among night workers compared to day workers.

**WORK ABILITY**

**Title**  
Work ability score and future work ability as predictors of register-based disability pension and long-term sickness absence: a three-year follow-up study

**Author/s**  
Kinnunen, U Natti, J

**Source**  
Scandinavian journal of public health 46 3 321-330 special issue: working life and health

**Abstract**  
Aims: We investigated two single items of the Work Ability Index – work ability score, and future work ability – as predictors of register-based disability pension and long-term sickness absence over a three-year follow-up.

Methods: Survey responses of 11,131 Finnish employees were linked to pension and long-term (more than 10 days) sickness absence register data by Statistics Finland. Work ability score was divided into poor (0–5), moderate (6–7) and good/excellent (8–10) and future work ability into poor (1–2) and good (3) work ability at baseline. Cox proportional hazard regressions were used in the analysis of disability pension, and a negative binomial model in the analysis of long-term sickness absence. The results were adjusted for several background, work- and health-related covariates. Results: Compared with those with good/excellent work ability scores, the hazard ratios of disability pension after adjusting for all covariates were 9.84 (95% CI 6.68–14.49) for poor and 2.25 (CI 95% 1.51–3.35) for moderate work ability score. For future work ability, the hazard ratio was 8.19 (95% CI 4.71–14.23) among those with poor future work ability. The incidence rate ratios of accumulated long-term sickness absence days were 3.08 (95% CI 2.19–4.32) and 1.59 (95% CI 1.32–1.92) for poor and moderate work ability scores, and 1.51 (95% CI 0.97–2.36) for poor future work ability.
Conclusions: The single items of work ability score and future work ability predicted register-based disability pension equally well, but work ability score was a better predictor of register-based long-term sickness absence days than future work ability in a three-year follow-up. Both items seem to be of use especially when examining the risk of poor work ability for disability but also for long sick leave.

WORK HEALTH AND SAFETY

**Title**
Impact of SCBA size and firefighting work cycle on firefighter functional balance

**Author/s**
Kesler, Richard M et al

**Source**
*Applied ergonomics* May 2018 69 112-119 8

**Abstract**
Slips, trips and falls are leading causes of fireground injuries. A functional balance test (FBT) was used to investigate the effects of self-contained breathing apparatus (SCBA) size and design, plus firefighting work cycle. During the FBT, subjects walked along a narrow platform and turned in defined spaces, with and without an overhead obstacle. Thirty firefighters wore three varying-sized standard SCBAs and a low-profile prototype SCBA during three simulated firefighting work/rest cycles. Firefighters were tested pre- and post-firefighting activity (one bout, two bouts with a 5-min break, or back-to-back bouts with no break). Subjects committed more errors and required longer completion times with larger SCBAs. Use of the prototype SCBA lead to lower times and fewer errors. Performing a second bout of firefighting increased completion time. Firefighters need to consider how SCBA and amount of physical activity on the fireground may influence balance in order to reduce the risk of injury.

**Title**
Incidence of cardiovascular disease in a historical cohort of Danish firefighters

**Author/s**
Pedersen, JE et al

**Source**
*Occupational & environmental medicine* 2018 75 5

**Abstract**
Objectives Firefighters are exposed to multiple cardiovascular hazards, but few epidemiological studies have addressed their cardiovascular morbidity. The objective of this study was therefore to examine the incidence of cardiovascular diseases (CVD) in Danish firefighters.

Methods We used individual historical employment records on 11,691 male Danish firefighters supplied by trade unions and fire agencies. The Supplementary Pension Fund Register was used to establish two occupational reference groups (a random sample from the male employed population and military employees). Information on CVD incidence was retrieved from the nationwide Danish National Patient Registry. SIRs and Poisson regression analyses (incidence rate ratio) were used for estimation of risks, including 95% CIs.

Results In comparison with the population sample, the age-adjusted and calendar time-adjusted SIR for all CVDs combined was increased in firefighters (SIR=1.10, 95% CI 1.05 to 1.15). The risk was also elevated for the most frequent outcomes, including angina pectoris (SIR=1.16, 95% CI 1.08 to 1.24), acute myocardial infarction (SIR=1.16, 95% CI 1.06 to 1.26), chronic ischaemic heart disease (SIR=1.15, 95% CI 1.06 to 1.24) and atrial fibrillation/flutter (SIR=1.25, 95% CI 1.14 to 1.36). This analysis showed the most elevated SIRs for CVD in full-time firefighters compared with part-time/volunteer firefighters. Both types of firefighters employed <15 years had an increased risk of CVD. Similar risk patterns appeared in comparisons with the military. Internal analysis supported external findings.

Conclusion The risk of overall CVD, including the most frequent subtypes was modestly increased in Danish firefighters and was most elevated in full-time firefighters compared with other male employees.

**Title**
Microrna changes in firefighters
Author/s: Jeong, Kyoung Sook et al
Source: *Journal of occupational and environmental medicine* May 2018 60 5 469–474 doi: 10.1097/JOM.0000000000001307

Abstract: Objectives: Firefighters have elevated cancer incidence and mortality rates. MicroRNAs play prominent roles in carcinogenesis, but have not been previously evaluated in firefighters. Methods: Blood from 52 incumbent and 45 new recruit nonsmoking firefighters was analyzed for microRNA expression, and the results adjusted for age, obesity, ethnicity, and multiple comparisons. Results: Nine microRNAs were identified with at least a 1.5-fold significant difference between groups. All six microRNAs with decreased expression in incumbent firefighters have been reported to have tumor suppressor activity or are associated with cancer survival, and two of the three microRNAs with increased expression in incumbent firefighters have activities consistent with cancer promotion, with the remaining microRNA associated with neurological disease. Conclusion: Incumbent firefighters showed differential microRNA expression compared with new recruits, providing potential mechanisms for increased cancer risk in firefighters.

Title: Occupational exposure to organic solvents and risk of male breast cancer: a European multicenter case-control study

Author/s: Laouali, N et al

Abstract: Objectives The etiology of male breast cancer (MBC) is largely unknown but a causal role of exposure to organic solvents has been suggested. Previous studies on occupational risk factors of breast cancer were often restricted to women who are frequently exposed to lower levels and at a lower frequency than men. We investigated the association between MBC and occupational exposure to petroleum and oxygenated and chlorinated solvents in a multicenter case-control study of rare cancers in Europe. Methods The study included 104 MBC cases and 1901 controls. Detailed lifetime work history was obtained during interviews, together with sociodemographic characteristics, medical history and lifestyle factors. Occupational exposures to solvents were estimated from a job-exposure matrix. Odds ratios (OR) and their 95% confidence intervals (CI) were calculated using unconditional logistic regression models. Results Lifetime cumulative exposure to trichloroethylene >23.9 ppm years was associated with an increased MBC risk, compared to non-exposure [OR (95% CI): 2.1 (1.2–4.0); P trend <0.01]. This increase in risk persisted when only exposures that occurred ≥10 years before diagnosis were considered. In addition, a possible role for benzene and ethylene glycol in MBC risk was suggested, but no exposure-response trend was observed. Conclusions These findings add to the evidence of an increased risk of breast cancer among men professionally exposed to trichloroethylene and possibly to benzene or ethylene glycol. Further studies should be conducted in populations with high level of exposure to confirm our results.

Title: Occupational noise exposure, bilateral high-frequency hearing loss, and blood pressure

Author/s: Gan, Wen Qi Mannino, David et al
Source: *Journal of occupational and environmental medicine* May 2018 60 5 462–468 doi: 10.1097/JOM.0000000000001232

Abstract: Objective: The aim of this study was to investigate the relationships between occupational noise exposure and blood pressure using self-reported occupational exposure and bilateral high-frequency hearing loss. Methods: This study included 4548 participants aged 20 to 69 years from the National Health and Nutrition Examination Survey 1999 to 2004. On the basis of self-reported exposure
status, participants were divided into the current, former, or never exposed groups. Bilateral high-frequency hearing loss was defined as the average high-frequency hearing threshold at least 25 dB in both ears.

Results: The currently exposed participants had slightly increased diastolic blood pressure compared with those never exposed. Among previously exposed participants, those with bilateral high-frequency hearing loss had increased systolic blood pressure, heart rate, and the prevalence of hypertension compared with those with normal high-frequency hearing.

Conclusion: Although there were some significant results, the evidence was not consistent to support the associations between occupational noise exposure and blood pressure.

Title: Role and value of the corporate medical director
Author/s: Pawlecki, J., Brent et al
Source: Journal of occupational and environmental medicine May 2018 60 5 215–226 doi: 10.1097/JOM.0000000000001326
Abstract: The role of the corporate medical director (CMD) has evolved over the last 300 years since Ramazzini first identified diseases of Italian workers in the early 1700s. Since then, there has been a gradual blurring of the boundaries between private and workplace health concerns. Today’s CMD must have intimate knowledge of their corporation’s industry and the businesses that they support, particularly the occupational and environmental programs that comply with all local, state, and/or national standards and regulations. Leading companies not only measure compliance with such standards but also may hold programs to their own internal corporate global standards even if these go beyond local government requirements. This document will explore in greater depth the strength and importance that the CMD brings to the business operations to support a healthy, engaged, and high performing workforce. Part 1 describes the role and value of the CMD, while Part 2 provides collective wisdom for the new CMD from current and past highly experienced CMDs.

Title: Working with nanotechnology: data on health effects is limited
Author/s: Bush, Joe
Source: Safety+ health May 2018
Abstract: Nanomaterials can be found in missiles, satellites and airplanes, as well as more everyday items such as sunscreens, soaps, sporting goods, batteries and furniture. But what are they exactly?

Title: Crane cabins’ interior space multivariate anthropometric modeling
Author/s: Essdai, A et al
Source: Work 59 4 557-570 2018 DOI: 10.3233/WOR-182706
Abstract: Background: Previous research has shown that today’s crane cabins fail to meet the needs of a large proportion of operators. Performance and financial losses and effects on safety should not be overlooked as well.
Objective: The first aim of this survey is to model the crane cabin interior space using up-to-date crane operator anthropometric data and to compare the multivariate and univariate method anthropometric models. The second aim of the paper is to define the crane cabin interior space dimensions that enable anthropometric convenience.
Methods: To facilitate the cabin design, the anthropometric dimensions of 64 crane operators in the first sample and 19 more in the second sample were collected in Serbia. The multivariate anthropometric models, spanning 95% of the population on the basis of a set of 8 anthropometric dimensions, have been developed. The percentile method was also used on the same set of data. Results: The dimensions of the interior space, necessary for the
accommodation of the crane operator, are 1174×1080×1865mm. The percentiles results for the 5th and 95th model are within the obtained dimensions.

Conclusions: The results of this study may prove useful to crane cabin designers in eliminating anthropometric inconsistencies and improving the health of operators, but can also aid in improving the safety, performance and financial results of the companies where crane cabins operate.

WORKERS COMPENSATION

Title
Is employer-directed medical care associated with decreased workers’ compensation claim costs?

Author/s
Tao, Xuguand (Grant) et al

Source

Abstract
Background: The financial impact regarding choice of physician within the workers’ compensation domain has not been well studied.

Objective: The aim of this study was to assess the difference in claim cost between employee- and employer-directed choice of treating physician after injury.

Methods: Thirty-five thousand six hundred forty indemnity lost time claims from a 13-year period at a nationwide company were analyzed with multivariate logistic regression to determine the association of medical direction with risk of high-cost claims.

Results: States that have employer-directed physician choice were associated with a lower risk of having high-cost claims (≥$50,000) but higher attorney involvement than employee direction. The net effect of this enhanced presence of attorneys offsets the benefits of employer choice of treating physician.

Conclusion: States that permit employer selection of treating physician have slightly higher cost due to the higher prevalence of attorney involvement in the claims process.

WORK STRESS

Title
Age differences in the association between stressful work and sickness absence among full-time employed workers: evidence from the German socio-economic panel

Author/s
Götz, S., Hoven et al

Source

Abstract
Purpose We aim to extend current knowledge on associations between stressful work and sickness absence, first, by studying associations between ERI and sickness absence among full-time employees from various occupations, and second, by investigating if associations vary by age.

Methods We use data from four waves of the German socio-economic panel (GSOEP), collected among men and women between 2006 and 2012, with 9418 observations. Stressful work is measured with a short form of the ERI questionnaire. We investigate an imbalance between effort and reward (ER ratio) as well as the two main components (“high effort” and “low reward”). Sickness absence is measured by self-reported number of sickness days (assessed the following year). After descriptive analyses, we estimate a series of multivariable regressions, including tests for interactions between age and work stress.

Results Each of the three indicators of stressful work is related to higher number of sickness days, with exception of “high effort” in case of men. Findings remain significant after adjusting for social position (income, education and occupational class) and health. In addition, for both men and women, associations were slightly higher among older workers, though interactions did not reach statistical significance.
Conclusion Our findings support that stressful work is linked to sickness absence across a wide spectrum of jobs with varying incomes and educational levels, and also that associations are slightly more pronounced among older workers.

A cohort study on self-reported role stressors at work and poor sleep: does sense of coherence moderate or mediate the associations?

Hansen, Å.M et al

International archives of occupational & environmental health 2018 91 445.

https://doi.org/10.1007/s00420-018-1294-7

Aim The aim of the present study was to examine the bidirectional associations between subjective role ambiguity and role conflicts at work, respectively, and self-reported sleep 2 years later. In addition, we also examine whether sense of coherence (SOC) moderate or mediate the association between role stressors and poor sleep and between poor sleep and role stressors.

Methods We used questionnaire data collected in 2006 and 2008 from the Workplace Bullying and Harassment cohort. In 2006, 3363 responded to the questionnaire and in 2008 1671 responded. In total, 1569 participants responded in both 2006 and 2008 to the questions on role stressors (in terms of role ambiguity and role conflicts at work) and sleep problems in both 2006 and 2008. Sleep problems were assessed with the awakening index (AWI) and the disturbed sleep index (DSI). Moderation and mediation analyses of the association were estimated using structural equation modelling.

Results We found a prospective association between role stressors and sleep problems [beta values were 0.07 (95% CI 0.03–0.11) and 0.05 (CI 0.01–0.10) for DSI and AWI, respectively] when adjusting for sleep problems at baseline, age, sex, and life style factors (i.e. alcohol, smoking, and leisure time physical activity). SOC moderated the association showing that participants with lower SOC scores who reported higher role ambiguity reported sleep problems to a higher extent than participants with high SOC scores. SOC also mediated the association between role stressors and sleep problems. We also found support for sleep problems at baseline and role stressors 2 years later [DSI 0.04 (CI 0.00–0.08) and 0.15 (CI 0.09–0.21)] for role ambiguity and role conflicts, respectively. Similar results were observed for AWI.

Conclusion Subjective role stressors were prospectively associated with sleep problems. Yet, sleep problems could also prospectively predict subjective role stressors (i.e. reverse causation). The analyses also showed that SOC may be regarded as both a mediating and a moderating factor of the association between subjective role conflicts and poor sleep. We found that SOC moderated the prospective association so participants with low SOC report more sleep problems with subjective role conflicts compared to participants with high SOC. Finally, we also found SOC mediated the prospective association between subjective role stressors and sleep problems and the reverse association.

Work-related stress as a cardiovascular risk factor in police officers: a systematic review of evidence

Magnavita, N et al


https://doi.org/10.1007/s00420-018-1290-y

Purpose Several studies suggest that work-related stress in police officers may be associated with an increased risk of cardiovascular diseases. A systematic review of studies is, however, still lacking.

Method According to PRISMA statement, a systematic search of PubMed, ISI Web of Science, Cinahl and PsychInfo electronic databases was undertaken. Studies published in English between 1/1/2000 and 31/12/2016 were included. A studies quality assessment was performed using the Newcastle Ottawa scale (NOS).

Results The preliminary search retrieved 752 records. After selection, 16 studies (total population 17,698) were retrieved. The average quality of studies was low. Exposure to stress in cross-sectional studies was inconstantly associated with hypertension, obesity, dyslipidaemia, and impaired glucose metabolism. In addition, there was a prevalence of
positive studies showing an association between stress and cardiovascular disease morbidity. Studies of higher quality, such as longitudinal studies on large sample size, were more supportive of a significant positive association between stress and cardiovascular risk factors. Results were, however, often conflicting and inconsistent with regard to definitions and measurement of stress, features of individual study design, study conduct, and conclusions drawn.

Conclusions A sound precautionary principle would be to adopt worksite health promotion programs designed to implement stress management strategies in this category of workers.