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***Tullar JM, Walker TJ, Page TF, Taylor WC, Roman R, and Amick BC, III. Evaluation of a worksite-based small group team challenge to increase physical activity. *American Journal of Health Promotion*. 2019; 33(2):259-266.**

<https://doi.org/10.1177/0890117118784229>

Abstract: PURPOSE:: To investigate whether participants in a small group team challenge had greater completion rates in an institution-wide step-challenge than other participants. DESIGN:: A quasi-experimental, posttest-only design with a comparison group was used to evaluate group differences in completion rates. SETTING:: A large university system provided the opportunity to participate in a physical activity challenge. PARTICIPANTS:: The study was limited to employees who participated in the physical activity challenge. INTERVENTION:: Two institutions offered participants the chance to compete as smaller groups of teams within their institution. These team-challenge participants (N = 414) were compared to participants from the same institutions that did not sign up for a team and tracked their steps individually (N = 1454). MEASURES:: Participants who reported 50 000 steps per week for 5 of the 6 weeks were classified as challenge completers. We also evaluated total step count and controlled for several potential covariates including age, gender, and body mass index. ANALYSIS:: Logistic regression was used to model

the dichotomous outcome of challenge completion. RESULTS:: Team-challenge participants were more likely to complete the physical activity challenge than other participants. Team-challenge participants had 1922 more steps per day than individual participants. However, at an institution level, overall completion rates were not higher at institutions that offered a team challenge

Andreassen CS, Nielsen MB, Pallesen S, and Gjerstad J. The relationship between psychosocial work variables and workaholism: findings from a nationally representative survey. International Journal of Stress Management. 2019; 26(1):1-10. <https://doi.org/10.1037/str0000073>;
<https://doi.org/10.1037/str0000073>

Bramer WM, Rethlefsen ML, Mast F, and Kleijnen J. Evaluation of a new method for librarian-mediated literature searches for systematic reviews. Research Synthesis Methods. 2018; 9(4):510-520.

<https://doi.org/10.1002/jrsm.1279>

Abstract: To evaluate and validate the time of completion and results of a new method of searching for systematic reviews, the exhaustive search method (ESM), using a pragmatic comparison. METHODS: Single-line search strategies were prepared in a text document. Term completeness was ensured with a novel optimization technique. Macros in MS Word converted the syntaxes between databases and interfaces almost automatically. We compared search characteristics, such as number of search terms and databases, and outcomes, such as number of included and retrieved references and precision, from ESM searches and other Dutch academic hospitals identified by searching PubMed for systematic reviews published between 2014 and 2016. We compared time to perform the ESM with a secondary comparator of recorded search times from published literature and contact with authors to acquire unpublished data. RESULTS: We identified 73 published Erasmus MC systematic reviews and 258 published by other Dutch academic hospitals meeting our criteria. We pooled search time data from 204 other systematic reviews. The ESM searches differed by using 2 times more databases, retrieving 44% more references, including 20% more studies in the final systematic review, but the time needed for the search was 8% of that of the control group. Similarities between methods include precision and the

number of search terms. CONCLUSIONS: The evaluated similarities and differences suggest that the ESM is a highly efficient way to locate more references meeting the specified selection criteria in systematic reviews than traditional search methods. Further prospective research is required

Hall C, Heck JE, Sandler DP, Ritz B, Chen H, and Krause N. Occupational and leisure-time physical activity differentially predict 6-year incidence of stroke and transient ischemic attack in women. *Scandinavian Journal of Work, Environment & Health*. 2018; [Epub ahead of print].

<https://doi.org/10.5271/sjweh.3787>

Abstract: Objectives Recent meta-analyses suggest a physical activity health paradox: high levels of occupational physical activity (OPA) increase cardiovascular disease (CVD) risk, while leisure-time physical activity (LTPA) decreases risk. However, studies of women and cerebrovascular disease are limited. This report examines physical activity effects on stroke and transient ischemic attack (TIA) among working women in the United States. Methods OPA history, health status, and lifestyle were assessed by baseline interviews of 31 270 employed Sister Study participants aged 35-74 years. OPA was assessed at six intensity levels (lowest: "mostly sitting"); the highest three were combined as "high intensity work." Independent OPA and LTPA effects on 6-year cerebrovascular disease incidence were estimated in adjusted Cox proportional hazard models. Results Stroke (N=441) and TIA (N=274) risk increased with more standing and higher intensity work at current and longest held job. Compared with mostly sitting, high intensity work at the current job increased TIA risk by 57% [hazard ratio (HR) 1.57, 95% confidence interval (CI) 1.04-2.38]. High intensity OPA at the longest held job increased risk for stroke by 44% (HR 1.44; 95% CI 1.08-1.93). Among women with CVD, sitting and standing equally, especially at the current job, increased risks up to two-fold (TIA HR 1.98, 95% CI 1.10-3.55) compared with mostly sitting at work. LTPA showed inverse associations. Conclusions Higher intensity levels of OPA increased stroke and TIA risks, while LTPA decreased risks; results corroborate the physical activity health paradox for women and cerebrovascular disease. More standing at work increased cerebrovascular disease risks, especially for women with CVD

Hellig T, Rick V, Mertens A, Nitsch V, and Brandl C. Investigation of observational methods assessing workload of static working postures based on surface electromyography. Work. 2019; 62(2):185-195.

<https://doi.org/10.3233/WOR-192854> [open access]

Abstract: BACKGROUND: A large number of different methods are available to identify and assess working postures. Although observation-based methods are most commonly used in practise, investigations showed different results regarding validity of such methods. OBJECTIVE: To investigate validity of one of the most commonly used observation-based assessment method in ergonomics, the Ovako Working Posture Analysing System (OWAS) and the European standard EN 1005-4 for evaluation of working postures, an experimental laboratory study was conducted. METHODS: Muscle activity was measured under combinations of static working postures of trunk inclination and shoulder flexion to compare these measurements and observation-based assessments according to OWAS and EN 1005-4. In order to investigate the magnitude of correspondence between muscle activity and observation-based assessments, Spearman rank correlation coefficients (r_s) were calculated. RESULTS: Significant correlations were found between OWAS and muscle activity (range from $r_s^2 = 0.17$ to $r_s^2 = 0.55$). Significant correlations were found between EN 1005-4 and muscle activity (range from $r_s^2 = 0.34$ to $r_s^2 = 0.74$). CONCLUSIONS: Results emphasise a need for further developments of observation-based methods, since the two investigated methods showed a variance of validity ranging from small to large. Such improvements may also form a better basis for the ergonomic improvement of working conditions in practise, which is highly necessary due to a constantly high prevalence of MSDs in the last decades

Hoprekstad OL, Hetland J, Bakker AB, Olsen OK, Espevik R, Wessel M, et al. How long does it last? Prior victimization from workplace bullying moderates the relationship between daily exposure to negative acts and subsequent depressed mood. European Journal of Work and Organizational Psychology. 2019; 28(2):164-178.

<https://doi.org/10.1080/1359432X.2018.1564279>

Howard NL and Adams D. In-home care services: an examination of the Washington state workers' compensation claims data, 2012-2016. Technical report number 95-02-2019. 2019. Olympia, Washington: Washington State Department of Labor and Industries; 2019.

<https://www.lni.wa.gov/Safety/Research/Files/HomeCareWCreport2019.pdf>

Jackson JA, Olsson D, Punnett L, Burdorf A, Jarvholm B, and Wahlstrom J. Occupational biomechanical risk factors for surgically treated ulnar nerve entrapment in a prospective study of male construction workers. *Scandinavian Journal of Work, Environment & Health*. 2019; 45(1):63-72.

<https://doi.org/10.5271/sjweh.3757>

Abstract: Objectives The aim of this study was to determine the association between occupational biomechanical exposures and occurrence of surgically treated ulnar nerve entrapment (UNE). Methods A cohort of 229 689 male construction workers who participated in a national occupational health surveillance program (1971-1993) were examined prospectively over a 13-year case ascertainment period (2001-2013) for surgically treated UNE. Job title (construction trade), smoking status, height, weight and age were recorded on examination. Job titles were merged into occupational groups of workers performing similar work tasks and having similar training. Occupational biomechanical exposure estimates were assigned to each occupational group with a job exposure matrix (JEM) developed for the study. Negative binomial models were used to assess the relative risks for each biomechanical exposure and the sums of highly correlated biomechanical exposures. Surgical treatment of UNE was determined via a linkage with the Swedish Hospital Outpatient Surgery Register. Results There were 555 cases of surgically treated UNE within the cohort. Workers exposed to forceful hand-grip factors had a 1.4-fold higher relative risk (95% CI 1.18-1.63) of undergoing surgical treatment for UNE compared to unexposed workers. Occupational groups comprising workers exposed to forceful hand-grip work showed the highest risks for UNE and included concrete workers, floor layers, ground preparatory workers, rock blasters, and sheet-metal workers. Conclusion Forceful

hand-grip work increases the risk for surgically treated ulnar nerve entrapment

Kim KM and Lee SJ. Work-related perceptions, injuries, and musculoskeletal symptoms: comparison between U.S.-educated and foreign-educated nurses. Workplace Health & Safety. 2019; [Epub ahead of print].

<https://doi.org/10.1177/2165079918821699>

Abstract: Immigrants account for a significant proportion of the nursing workforce in the United States (U.S.). Although different cultural backgrounds may affect immigrant nurses' perceptions of work and occupational health risks, little research has been conducted. Defining immigrant nurses as those who received initial nursing education in foreign countries, this study examined the differences in work-related perceptions and experiences of musculoskeletal (MS) symptoms and injuries between U.S.-educated and foreign-educated nurses. We analyzed data from a cross-sectional study using a statewide random sample of 419 California registered nurses. Foreign-educated nurses reported a more positive safety climate ($p = .017$) and perceived their jobs as less demanding ($p = .008$) than did U.S.-educated nurses. The prevalence of work-related MS symptoms was significantly lower in foreign-educated nurses than in U.S.-educated nurses ($p = .044$), but the difference was not significant in the multivariable analyses. Positive safety climate was significantly associated with a decreased risk of work-related MS symptoms and injuries, and this relationship was greater among U.S.-educated nurses than among foreign-educated nurses. Our findings suggest that immigrant nurses may have different perceptions about safety climate and job demand, which may modify their occupational health risks

Lin L, He G, Yan J, Gu C, and Xie J. The effects of a modified mindfulness-based stress reduction program for nurses: a randomized controlled trial. Workplace Health & Safety. 2019; 67(3):111-122.

<https://doi.org/10.1177/2165079918801633>

Abstract: The purpose of the study was to evaluate the effects of a modified mindfulness-based stress reduction (MBSR) program on the levels of stress, affect, and resilience among nurses in general

hospitals in mainland China. In addition, the study attempted to determine the impact of the program on job satisfaction. A total of 110 nurses were randomly assigned to the intervention versus control groups. The intervention group participated in a modified 8-week MBSR program. All participants were evaluated with questionnaires at baseline, immediately after the intervention, and 3 months later. The intervention group showed decreases in stress and negative affect and increases in positive affect and resilience after the intervention. No improvement in job satisfaction was observed, but the trends of the data were in the hypothesized direction that job satisfaction would improve. The modified MBSR program is an effective approach for nurses to decrease stress and negative affect and improve positive affect and resilience. In addition, the program has the potential to improve job satisfaction

Marshall IJ, Noel-Storr A, Kuiper J, Thomas J, and Wallace BC. Machine learning for identifying randomized controlled trials: an evaluation and practitioner's guide. Research Synthesis Methods. 2018; 9(4):602-614.

<https://doi.org/10.1002/jrsm.1287> [open access]

Abstract: Machine learning (ML) algorithms have proven highly accurate for identifying Randomized Controlled Trials (RCTs) but are not used much in practice, in part because the best way to make use of the technology in a typical workflow is unclear. In this work, we evaluate ML models for RCT classification (support vector machines, convolutional neural networks, and ensemble approaches). We trained and optimized support vector machine and convolutional neural network models on the titles and abstracts of the Cochrane Crowd RCT set. We evaluated the models on an external dataset (Clinical Hedges), allowing direct comparison with traditional database search filters. We estimated area under receiver operating characteristics (AUROC) using the Clinical Hedges dataset. We demonstrate that ML approaches better discriminate between RCTs and non-RCTs than widely used traditional database search filters at all sensitivity levels; our best-performing model also achieved the best results to date for ML in this task (AUROC 0.987, 95% CI, 0.984-0.989). We provide practical guidance on the role of ML in (1) systematic reviews (high-sensitivity strategies) and (2) rapid reviews and clinical question answering (high-precision strategies) together

with recommended probability cutoffs for each use case. Finally, we provide open-source software to enable these approaches to be used in practice

Nielsen AF, Zinckernage L, Tofte JB, and Timm H. Cancer survivors on the process of returning to work: a Danish focus group study. *Scandinavian Journal of Work, Environment & Health*. 2019; [Epub ahead of print].

<https://doi.org/10.5271/sjweh.3794>

Abstract: Objectives The aim of this study was to explore Danish cancer survivors perspectives on the process of returning to work. Methods Six focus-group interviews (N=32) were held with cancer survivors attending a five-day rehabilitation stay. Data were analyzed by applying meaning condensation then organized into themes. Results Most cancer survivors do not imagine themselves resuming work in the same way as before they had cancer. Many cancer survivors are missing support when navigating the bureaucracy involved with the process of returning to work and do not know how to become, or when they will be, ready for work. Conclusions Practice guidelines that support Danish cancer survivors in returning to work are currently based on knowledge from international reviews but should be supplemented with elements addressing how and when to become ready for work

Picot G, Zhang Y, and Hou F. Labour market outcomes among refugees to Canada. Analytical Studies Branch research paper series. Ottawa: Statistics Canada; 2019.

<https://www150.statcan.gc.ca/n1/en/pub/11f0019m/11f0019m2019007-eng.pdf?st=T8eZuayj>

Scott-Marshall H. Occupational gradients in work-related insecurity and health: interrogating the links. *International Journal of Health Services*. 2019; [Epub ahead of print].

<https://doi.org/10.1177/0020731419832243>

Abstract: Traditional work-related securities that constitute the career-job model of employment have been in steep decline for several decades, affecting workers across industries and occupations. Still, insecure employment remains unequally distributed across the working population according to the major axes of social stratification,

namely age, gender, race, and socioeconomic class. This study investigates patterns of exposure to work-related insecurity across the occupational hierarchy and whether these contribute to occupational gradients in health outcomes. Drawing on data from a national panel survey of the Canadian workforce, a multilevel growth curve modeling approach is used to examine the relationship between work-insecurity exposures and workers' self-rated health trajectories over 5 years. Findings show that work-related insecurity is associated with declines in self-rated health, although the type of insecurity as well as the magnitude, direction, and duration of the effect varies by occupational status-position. The application of pseudo-R(2) tests confirmed this study's central hypothesis that gradients in health outcomes across occupational hierarchies are due, in part, to differences in exposure to work-related insecurity. Going forward, the development of effective health promotion interventions that can modify work-related health gradients, must work toward mitigating the risk of exposure to adverse work circumstances that is systemic to occupational hierarchies

Sennehed CP, Holmberg S, Axen I, Stigmar K, Forsbrand M, Petersson IF, et al. Early workplace dialogue in physiotherapy practice improved work ability at 1-year follow-up: WorkUp, a randomised controlled trial in primary care. *Pain*. 2018; 159(8):1456-1464.

<https://doi.org/10.1097/j.pain.0000000000001216> [open access]

Abstract: Workplace involvement in rehabilitation for patients with musculoskeletal pain may improve work ability. Convergence Dialogue Meeting (CDM) is a model aimed at helping the patient, the care giver, and the employer to support work ability and return-to-work. Our aim was to study the effect on work ability when adding a workplace dialogue according to CDM in physiotherapy practice for patients with pain in ordinary primary care. We conducted a prospective pairwise cluster randomised controlled trial (ClinicalTrials.gov ID: NCT02609750) in primary care involving 20 primary care rehabilitation units with 1-year follow-up. Adult patients with acute/subacute neck and back pain, worked ≥ 4 weeks past year and not currently on sick leave or no more than 60 days of sick leave and considered at-risk of sick leave were included (n = 352). All patients received structured physiotherapy and the intervention was

the addition of CDM, delivered by the treating physiotherapist. The main confirmatory outcome, work ability (defined as working at least 4 consecutive weeks at follow-up), was assessed by a weekly short text message question on number of sick leave days past week. Work ability was reached by significantly more patients in the intervention group (108/127, 85%) compared with the reference group (127/171, 74%) ($P = 0.02$). The intervention increased the odds of having work ability at 1-year follow-up, also after adjustment for baseline health-related quality of life (odds ratio 1.85, confidence interval 1.01-3.38). We conclude that an early workplace dialogue in addition to structured physiotherapy improved work ability significantly

Sharma B, Nowrouzi-Kia B, Mollayeva T, Kontos P, Grigorovich A, Liss G, et al. Work-related traumatic brain injury: a brief report on workers perspective on job and health and safety training, supervision, and injury preventability. *Work*. 2019; 62(2):319-325. <https://doi.org/10.3233/WOR-192866>

Abstract: **BACKGROUND:** Although work-related injuries are on the decline, rates of work-related traumatic brain injury (wrTBI) continue to rise. As even mild wrTBI can result in cognitive, behavioural, and functional impairments that can last for months and even years, injury prevention is a primary research focus. Administrative claims data have provided valuable insights into the mechanisms that cause wrTBI; however, data from the perspective of injured workers on wrTBI prevention is limited. **OBJECTIVE:** Our study aimed to better understand the factors that precipitate wrTBI, as perceived by injured workers. **METHODS:** We recruited 101 injured workers from a neurology services clinic with a province-wide catchment area in a large, urban teaching hospital and studied perceived preventability of these injuries from the injured workers' perspective. **RESULTS:** Key findings were that nearly 80% of injuries were perceived as preventable, and nearly 25% and 50% of workers reported that they did not receive job and health and safety training, respectively. Less than half of all workers reported being regularly supervised, and of those who were supervised, approximately two-thirds reported that supervision was adequate. Moreover, 84% and 77% reported they were advised to rest and take time-off after the injury, respectively. **CONCLUSIONS:** Our study is the first to show that the vast majority of injured workers consider their wrTBI to be preventable. In addition,

we found that training and supervision are two areas that can be targeted by wrTBI prevention strategies. Our study provides valuable and unique perspectives to consider when designing wrTBI prevention initiatives

Yun S, Lim SS, Kim J, Kim YK, Won JU, and Yoon JH. The role of customer service manual on workplace emotional burden in nationwide cross sectional study. *Annals of Occupational and Environmental Medicine*. 2019; 31:5.

<https://doi.org/10.1186/s40557-019-0285-9> [open access]

Abstract: Background: We aim to discuss the overall effect of customer service manual (CSM) on service industry workers using Korean Working Condition Survey. Methods: Out of 50,007 total survey participants, 11,946 customer service workers were included in the current study (5613 men, 6333 women). Answers to survey questions were used to define the use of CSM, emotional burden, emotional dissonance, engaging angry customers and other covariates. Emotional burden included either depressive event or stress level. Odds ratio (OR) with 95% confidence interval (95% CI) of experiencing emotional burden was calculated by logistic regression model. Interaction effect between CSM and engaging angry customer on emotional burden was also estimated. Results: Out of 11,946 subjects, total of 3279 (27.4%) have experienced emotional burden. OR (95% CI) of experiencing emotional burden was 1.40 (1.19-1.64) in men and 1.25 (1.09-1.44) in women. There was gender difference in interaction effect between the use of CSM and engaging angry customers. In men, OR (95% CI) was 3.16 (1.38-7.23) with additive effect when always engaging angry customers with CSM compared to rarely engaging without CSM, while in women OR (95% CI) was 8.85 (3.96-19.75) with synergistic effect. Moreover, the risk of depressive event increased only in women with OR (95% CI) 2.22 (1.42-3.48). Conclusions: Our current study highlighted association between emotional burden and CSM in both men and women service workers. Furthermore, women were affected more severely by CSM. The results from current study suggest that CSM should be changed appropriately to benefit workers

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