

## Colour vision testing

Colour vision (CV) tests are mandatory in several transport industries, but there is inconsistency in both their use and their 'colour safe' pass/fail rates, according to this systematic review. The pass/fail rates depend on the type of test, the conditions under which they are taken and the assessment criteria. The 20 included papers were mostly of good methodological quality. Many regulatory bodies still use Ishihara plates in combination with secondary lantern tests, but these cannot accurately quantify type or severity of CV deficiency. Modern computer-screen tests, such as the Colour Assessment and Diagnosis, and the Cone Contrast Test, have higher specificity and sensitivity, and are able to quantify the nature and level of CV deficiency. The authors conclude that industry standards should meet job-specific CV requirements, with tests validated so that they do not unfairly discriminate against those with CV deficiency but who can safely do the job.

- *Occupational Medicine* 2016; 66: 268–275. doi: 10.1093/occmed/kqw012. ohaw.co/28NDIQE
- <http://occmed.oxfordjournals.org/content/66/4/268.abstract>

## Can personalised online interventions achieve weight loss?

Online interventions aimed at encouraging weight loss among overweight and obese adults can be successful if they provide personalised feedback – but only in the short term – according to a meta-analysis of 12 studies. The interventions lasted between three months and two years and all included personalised feedback on targeted weight-loss progress or behaviour change (eg diet and exercise). Study group participants receiving personalised feedback achieved 2.1kg greater weight loss on average compared with controls ( $p < 0.00001$ ) and were twice as likely to achieve clinically meaningful weight loss of 5% body weight or more. However, significant reductions in body weight were achieved in the intervention groups compared with controls in short-duration studies, with data collected at three and six months, but not in interventions lasting 12 months or more. Long-term maintenance of weight loss is essential to achieve health benefits. Methodological quality was generally low.

- *Obesity Reviews* 2016; 17(6): 541–551. doi:10.1111/obr.12396. ohaw.co/28MZrCD
- <http://onlinelibrary.wiley.com/doi/10.1111/obr.12396/abstract>

## No breast cancer link to engine exhaust at work

Occupational exposure to engine exhaust is not associated with an increased risk of breast cancer, this Australian population-based case–control study found. It looked at 1,202 breast cancer cases and 1,785 controls, approximately matched by age. Questionnaires were used to establish occupational history (details about jobs held for at least six months) as well as other relevant factors, such as demographic characteristics, smoking, physical activity and alcohol consumption. Occupational exposures in different jobs were estimated using data from telephone interviews. Breast cancer was not associated with occupational exposure to diesel exhaust (odds ratio (OR) = 1.07; 95% confidence intervals (CI) 0.81–1.41), gasoline (petrol) exhaust (OR = 0.98; CI 0.74–1.28), or other engine exhausts (OR = 1.08; CI: 0.29–4.08). There were no significant dose–response or duration–response relationships.

- *American Journal of Industrial Medicine* 2016; 59: 437–444. doi:10.1002/ajim.22592. ohaw.co/28YbIWd
- <http://onlinelibrary.wiley.com/doi/10.1002/ajim.22592/abstract>

### **Soldiers' suicide risk**

US Army soldiers who have never been deployed have a higher risk of suicide attempts (SAs) than those previously or currently deployed, this retrospective cohort study found. It was based on 163,178 enlisted soldiers on active duty between 2004 and 2009; 9,650 of whom had attempted suicide. Never-deployed soldiers had the highest rate of SAs, at 569 per 100,000 person-years, followed by previously and currently deployed soldiers (304 and 157 SAs per 100,000 person-years, respectively). SA risk was higher among female than male soldiers across all deployment groups (currently deployed OR = 3.4, CI 3.0–4.0; previously deployed OR = 1.5, CI 1.4–1.7; never deployed OR = 2.4, CI 2.3–2.6). A diagnosis of depression in the previous month gave the highest risks of SA (currently deployed OR = 14.1, CI 10.4–19.1; previously deployed OR = 10.6, CI 9.3–12.0; never deployed OR = 10.2, CI 9.3–11.2). Post-traumatic stress disorder was also a significant predictor of SA. The results will help inform suicide-prevention strategies.

- *JAMA Psychiatry* 2016; online first: doi:10.1001/jamapsychiatry.2016.0600. ohaw.co/28Uf2nn
- <http://archpsyc.jamanetwork.com/article.aspx?articleid=2524845>

### **Complex work associated with higher cognitive function in later life**

High levels of mental demands at work (strong evidence), occupational complexity (moderate evidence) and job control (moderate evidence) were all associated with higher levels of future cognitive function, measured in midlife or old age, according to this systematic review. But there was only weak, conflicting or insufficient evidence to show that these factors actually protect against age-related cognitive decline. There was no evidence that job strain was associated with future loss of cognitive function. Eleven longitudinal studies measuring psychosocial working conditions were included, with follow-up ranging from three to 34 years. All studies controlled for confounding factors such as gender, age, education and occupational grade.

- *Occupational and Environmental Medicine* 2016; 73:487–496. doi:10.1136/oemed-2016-103550. ohaw.co/28Q5Z3E
- <http://oem.bmj.com/content/73/7/487.abstract>

### **Workplace mindfulness**

A workplace mindfulness intervention failed to improve work engagement, job satisfaction and work ability, and was not cost effective, according to this randomised controlled trial involving 257 employees of two Dutch research institutions. The six-month intervention comprised eight weekly, 90-minute, group-training sessions in mindfulness, supported by online mindfulness coaching, the provision of fruit and vegetables, lunchtime walking routes, and a 'buddy' system where participants paired up to discuss homework exercises. Control-group participants were emailed a link to online information about health promotion offered by their employer. At 12-month follow up, work engagement was slightly higher (but of no clinical relevance) in the control group, but there were no significant differences in job satisfaction, work ability or general vitality. Cost-effectiveness and return on investment were measured by considering the costs of the intervention and monetised estimates of outcomes – eg occupational health (OH) utilisation, absence and presenteeism. There were no differences in absence or use of OH, but control group participants had slightly lower mean costs associated with presenteeism ( $p < 0.05$ ). The intervention did not give a positive return on investment for the employer.

- *Journal of Occupational & Environmental Medicine* 2016; 58(6): 550–560. doi:10.1097/JOM.0000000000000736. ohaw.co/28SCKAY
- [http://journals.lww.com/joem/Abstract/2016/06000/Long\\_Term\\_Cost\\_Effectiveness\\_and.3.aspx](http://journals.lww.com/joem/Abstract/2016/06000/Long_Term_Cost_Effectiveness_and.3.aspx)

### Ischaemic heart disease – psychosocial risks

Women and men exposed to adverse psychosocial working conditions are at greater risk of ischaemic heart disease (IHD), according to a systematic review of 96 studies. It found moderately strong evidence linking IHD with job strain (from 25 studies covering over 804,000 participants) and low decision latitude – ie having little autonomy or control over work – (18 studies with more than 237,000 participants). There was limited evidence linking IHD with: effort–reward imbalance; low support at work; low workplace justice; poor skill discretion; insecure employment; night work; long working week; occupational noise; and a combination of job strain and poor support. The authors estimate a population attributable risk of IHD due to job strain of 5%, with the effects on society even greater if the other risk factors were added.

- *European Journal of Public Health* 2016; 26(3): 470–477. doi:10.1093/eurpub/ckw025. ohaw.co/28SMBUg
- <http://eurpub.oxfordjournals.org/content/26/3/470?rss=1#abstract-1>

### PTSD risk for terror attack rescue workers

Professional rescue workers experienced lower rates of post-traumatic stress symptoms (PTSS) and post-traumatic stress disorder (PTSD) than unaffiliated volunteers dealing with the aftermath of the terror attacks in Norway in July 2011, when 77 people died following a car bomb and subsequent mass shooting at a youth camp in Utøya Island. This cross-sectional study involved 1,790 people, including healthcare workers (eg doctors, nurses, paramedics, psychologists, psychiatrists and counsellors) police, fire-fighters, volunteers from various voluntary rescue organisations and unaffiliated volunteers (ie members of the public) who happened to be in the area. Questionnaires, completed 10 months after the attacks, included questions about participants' role in, and experience of, the rescue operation, post-incident support and appreciation of their contribution. Prevalence of sub-threshold PTSD (PTSD Checklist (PCL) score 35–49) ranged from 1%–3% for the various professional and affiliated rescue personnel groups, but was 24% for unaffiliated volunteers; prevalence of possible PTSD (PCL ≥50) was 0.2%–2% for professionals/affiliates and 15% for unaffiliated volunteers. Female gender, witnessing injured/dead victims, perceived threat, perceived obstruction in rescue work, lower level of previous training and being an unaffiliated volunteer were significantly associated with higher PTSS risk (PCL 31–38) ( $p < 0.001$  for all comparisons). Previous work experience of similar tasks, training in similar tasks, sense of achievement and role clarity were associated with lower PTSS risk.

- *Occupational Medicine* 2016; online first: doi:10.1093/occmed/kqw063. ohaw.co/294pwy5
- <http://occmed.oxfordjournals.org/content/early/2016/06/20/occmed.kqw063.abstract>

### Bullying associated with sickness absence

Workplace bullying is an important risk factor for sickness absence, this systematic review confirms. Sixteen of the 17 included studies – which together included nearly 105,000 participants – found a statistically significant, positive and direct association between bullying and absence. Absence risk was assessed differently in the included trials – some looked at the number of spells, and others the duration of absence. Based on a meta-analysis of 10 studies, the pooled odds ratio of absence risk in those bullied at work compared with those not bullied was 1.58 (CI 1.39–1.79). No data were presented on reverse causation (ie the impact of absence on the subsequent risk of exposure to bullying).

- *Scandinavian Journal of Work, Environment and Health* 2016 – online first: doi: 10.5271/sjweh.357. ohaw.co/28SquiN
- [http://www.sjweh.fi/show\\_abstract.php?abstract\\_id=3579](http://www.sjweh.fi/show_abstract.php?abstract_id=3579)

### Very early interventions to reduce sick leave

There is insufficient current evidence to recommend very early workplace interventions – in the first two weeks of sickness absence – to improve return to work (RTW) rates or reduce absence duration, according to this systematic review. Only four papers covering three randomised controlled trials met inclusion criteria. In two Dutch studies, OH physicians assessed physical and psychosocial factors arising from mental ill health and musculoskeletal pain, with the aims of enhancing the worker's problem-solving capability and removing barriers to RTW. Workers with musculoskeletal pain returned to work earlier (but not significantly so) than those who received usual care (hazard ratio (HR) = 1.3; CI 0.9–1.9). There was no difference in RTW times for police workers with mental health problems (HR = 1.0; CI 0.7–1.3). The third study, from Finland, investigated the provision of early 'part-time sick leave' (ie reduced daily working hours for sick-listed employees). RTW was quicker in the partial sick leave group compared with those on full sick leave (HR = 1.8; CI 1.2–2.8). None of the studies found a significant reduction in total productivity loss (a combination of sick leave duration, recurrent sick leave and self-assessed productivity) compared with controls. A meta-analysis found no significant differences between the intervention and control groups.

➤ *Scandinavian Journal of Work, Environment and Health* 2016 – online first: doi:  
10.5271/sjweh.3576. ohaw.co/28Psx30

➤ [http://www.sjweh.fi/show\\_abstract.php?abstract\\_id=3576](http://www.sjweh.fi/show_abstract.php?abstract_id=3576)