

proportion of time spent at work between periods of three years before and three years after rehabilitation among the intervention and control group and the difference in these differences (DID).

Results Among those with 105+days of work disability in the preceding three-year period, vocational rehabilitation resulted in significant percentage point gains in work participation, with the total DID across the disease groups and genders being 9.2 (95% confidence interval 7.3–11.1). The gains tended to actualise immediately after rehabilitation. No gains were observed among those with shorter preceding work disability.

Conclusions Vocational rehabilitation after musculoskeletal- and mental-related work disability showed only shorter-term effectiveness on work participation and only among those with longer work disability histories. The effectiveness of alternative and complementary interventions to vocational rehabilitation should be investigated.

08D.5 PHYSICAL ACTIVITY AS A MODERATOR OF EFFORT-REWARD IMBALANCE OVER TIME – RESULTS OF THE GERMAN LIDA-COHORT STUDY

Jean-Baptist du Prel*, Daniela Borchart. *University of Wuppertal, Department of Occupational Health Science, Wuppertal, Germany*

10.1136/OEM-2019-EPI.204

Background Work-related stress is widespread in modern societies and an important risk factor for common health impairments. The model of effort-reward imbalance (=ERI), one of the best-investigated occupational stress models, is associated with musculoskeletal and coronary heart diseases as well as depressive disorders. A common assumption is that physical activity (PA) antagonizes the harmful effects of distress on health. Yet, the evidence of the effect of PA on work-related stress, especially on ERI, is limited so far. The aim of this investigation was to analyze the effect of PA on ERI over time.

Methods Work-related stress was measured by ERI and physical activity by a single question asking for the weekly frequency of physical activity leading to sweating or getting out of breath over two study waves (t1, t2). Multiple linear regression analysis adjusting for sociodemographic factors (age, sex, education) was performed including interaction testing.

Results Work-related stress at t1 was a significant predictor for work-related stress at t2. Physical activity at t2 - itself not significantly associated with work-related stress - had a significant moderating effect on work-related stress over two study waves. The higher the frequency of PA was, the lower the stress level at t2 in comparison to t1. This interaction of physical activity with ERI was also observable after adjustment for sociodemographic factors.

Discussion We found a moderating effect of physical activity on ERI over time in agreement with former studies using other measures of work-related stress. A dose-response relationship of physical activity and ERI over two study waves was observable in our study. Regarding the detrimental effect of chronic stress on health, PA might be beneficial by mitigating the health hazards of ERI and their long-term consequences (e.g., loss of work force). Longitudinal studies over more than two waves have to prove our findings.

08D.6 HIGH PHYSICAL WORKLOAD AND DISABILITY PENSION: A FOLLOW-UP STUDY OF SWEDISH MEN UNTIL 59 YEARS OF AGE

^{1,2}Katarina Kjellberg*, ³Daniel Falkstedt, ^{1,2}Anette Linnarsjö, ^{1,4}Tomas Hemmingsson. ¹*Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden;* ²*Centre for Occupational and Environmental Medicine, Stockholm County Council, Stockholm, Sweden;* ³*Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden;* ⁴*Department of Public Health Sciences, Stockholm University, Stockholm, Sweden*

10.1136/OEM-2019-EPI.205

Background In Sweden, the proportion of the population that remains in paid employment until normal retirement age of 65 years is less than 50% in blue-collar groups, compared to 60%–75% in white-collar occupations. High physical workload has been associated with early exits from the labor market through disability pensions (DP) in many studies. However, identified risk factors for DP from early life may be more prevalent among men in heavy manual occupations than in others. The aim was to investigate the association between high physical work load in middle age and DP before age 59, adjusting for social background, physical ability, psychological characteristics, lifestyle and education measured before labour market entrance.

Methods The study is based on a Swedish conscription cohort of 49 321 men born 1949–1951. At enlistment 1969/1970 information was collected about cardiorespiratory fitness, social background, psychological characteristics and health behaviours, e.g. smoking. Physical workload was estimated with a job exposure matrix based on questions concerning heavy lifting, strenuous work postures, repetitive work and physically strenuous work from the Swedish Work Environment Surveys 1989–97. Mean values for men of a composite physical exposure variable were grouped into quartiles; high, medium-high, medium-low and low physical workload, and assigned to occupational titles from the census 1990. The study group was followed regarding DP from age 40 to 59.

Results Exposure to high (HR 2.67, CI 95% 2.42–2.95), medium-high (HR 2.43, CI 95% 2.20–2.69) and medium-low (HR 1.31, CI 95% 1.18–1.47) physical workload, compared with low, were associated with DP up to age 59. The increased risks remained, but were clearly attenuated after adjustments for pre-labour market factors, especially psychological characteristics and education.

Conclusion The results are in line with a major effect of high physical work load on disability pension, even though adjustments for pre-labour market factors clearly attenuated the risks.

08D.7 THE EFFECT OF RIGHT TRUNCATION BIAS ON BIOMECHANICAL FACTOR RISK ESTIMATES FOR CTS

¹Carisa Harris-Adamson, ²Ellen Eisen, ¹David Rempel*, ³Fred Gerr, ⁶Stephen Bao, ⁴Kurt Hegmann, ⁵Jay Kapellusch, ⁷Alysha Meyers. ¹*University of California, San Francisco, San Francisco, USA;* ²*University of California, Berkeley, Berkeley, USA;* ³*University of Iowa, Iowa City, USA;* ⁴*University of Utah, Salt Lake City, USA;* ⁵*University of Wisconsin, Milwaukee, USA;* ⁶*Department of Labor and Industries, Olympia, USA;* ⁷*National Institute for Occupational Safety and Health, Cincinnati, USA*

10.1136/OEM-2019-EPI.206

Carpal tunnel syndrome (CTS) is a potentially disabling occupational illness with high incidence rates in certain occupations. Prospective workplace studies have identified