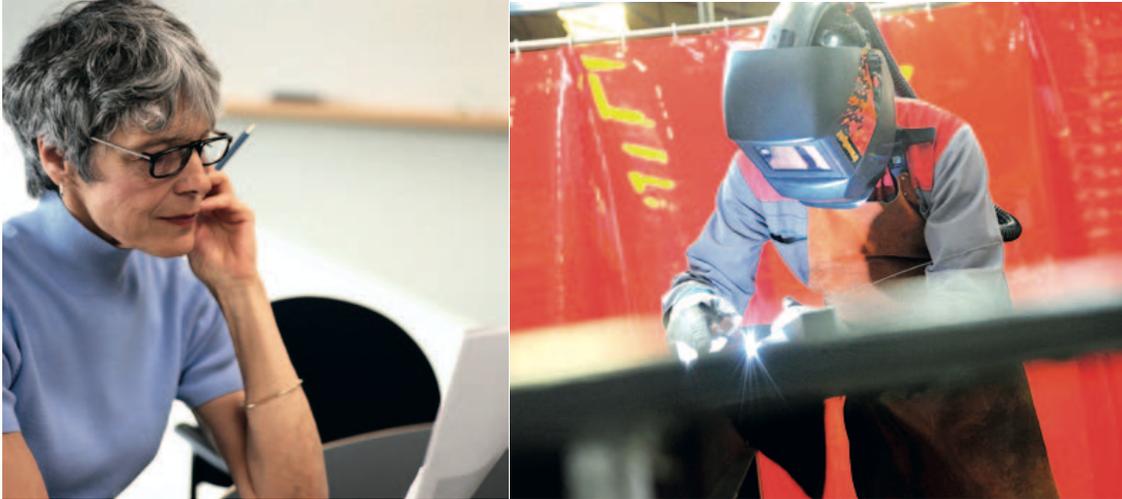


# Prolonging Working Life

Overview of studies about prolonging working life across the PEROSH institutes



National Research Centre for the Working Environment (NFA, Denmark), Central Institute for Labour Protection–National Research Institute (CIOP-PIB, Poland), National Institute of Occupational Health (STAMI, Norway), Finnish Institute of Occupational Health (FIOH, Finland), The National Research and Safety Institute for the Prevention of Occupational Accidents and Diseases (INRS, France), Italian Workers Compensation Authority (INAIL, Italy), Netherlands Organisation for Applied Scientific Research (TNO, Netherlands) and the National Institute of Safety and Health at Work (INSST, Spain)

<http://www.perosh.eu/research-projects/perosh-projects/prolonging-working-life/>

PEROSH (Partnership for European Research in Occupational Safety and Health) is a Network of European Occupational Safety and Health research institutes.

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## Introduction

Due to demographic changes across Europe, there are strong political interests in maintaining the labour force by prolonging working life, i.e. increasing retirement age. In 2018 we started a new PEROSH project 'Prolonging Working Life'. To better guide initiatives for maintaining older workers at the labour market across Europe, this PEROSH project aims to determine push and stay factors for labour market participation of older workers across different European countries with different regulations and cultures. Push factors can be understood as negative factors, e.g. poor working environment, poor health, that pushes people out of the labour market, and stay factors the opposite, positive factors that can motivate people to stay at work e.g. a good social climate, interesting work etc. The project is described at the PEROSH Website.

In connection to this new PEROSH project, we have collected information about which previous, ongoing, or near future projects in this area there are at the PEROSH institutes. This report provides an overview of these projects. During late 2018 a questionnaires were sent to the PEROSH institutes for the researchers to fill out, about their projects in this research area.

In summary, a total of 44 studies were reported. Of these 19 were completed and 25 are ongoing. The studies consist of many different types of designs, e.g. 4 randomized controlled trials, 15 cross-sectional studies, and 17 prospective cohort studies. The studies have also used a range of different data sources, e.g. 38 with questionnaires, 18 with qualitative interviews, 15 with national register, 12 with technical measurements, and 13 with measurement of physical function. The study populations also vary a lot, with 11 from the general population, 25 from the general working population, and 17 from specific occupations. The number of participants in the studies range from 10 to 2,500,000.

The completed projects give an indication of several work factors that have impact on work participation (or work ability), sometimes as a push factor, sometimes as a stay factor. Besides work factors, the impact of health and specific health problems was demonstrated, but also personal factors, behaviours and skills were studied. Among the ongoing projects are also projects aimed at risk factors, but also projects that aim to develop a model or a programme aimed at, for example, prevention, physical training or rehabilitation.

The many different studies show that the PEROSH institutes are active in the area of Prolonging Working Life. In 2020, a number of these studies will be discussed at the 1<sup>st</sup> International Conference on Prolonging Working Life in Copenhagen, Denmark.

We hope that this overview of studies will stimulate collaboration among researchers at the different PEROSH institutes to facilitate relevant research in the area of Prolonging Working Life.

*13<sup>th</sup> May 2019, on behalf of the PEROSH 'Prolonging Working Life' group*

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**Studies from the National Research Centre for the Working Environment,  
Denmark**

## Project Name

### **Copenhagen Aging Midlife Biobank (CAMB)**

#### Project description

Influence of physical and psychosocial work environment throughout life and physical and cognitive capacity in midlife on labor market attachment among older workers: study protocol for a prospective cohort study.

**BACKGROUND:** As average life span increases, elderly will account for an increasing proportion of the total population in most parts of the world. Thus, initiatives to retain older workers at the labor market are becoming increasingly important. This study will investigate the influence of physical and psychosocial work environment throughout working life and physical and cognitive capacity in midlife on labor market attachment among older workers. **METHODS/DESIGN:** Approximately 5000 participants (aged 50-60 years) from the Copenhagen Aging and Midlife Biobank (CAMB) will be followed prospectively in a national register (DREAM), containing information on a week-to-week basis about social transfer payments for about 5 million Danish residents. Using Cox regression, we will model the risk of long-term sickness absence, disability pension, early retirement and unemployment within a 4 to 6 year period from the baseline measurement as a function of the following predictors: 1) physical work demands throughout working life, 2) psychosocial working conditions throughout working life, 3) physical capacity in midlife, 4) cognitive capacity in midlife. Estimates will be adjusted for age, sex, lifestyle, socioeconomic position, chronic disease and long-term sickness absence prior to baseline.

**DISCUSSION:** The project will generate new knowledge on risk factors for loss of labor market attachment. The results will potentially contribute in identifying factors that could be targeted in future interventions for maintaining a longer and healthier working life among older workers.

#### Keywords

Ageing population; Disability pension; Occupational health; Retirement; Sickness absence

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#### Institution

National Research Centre for the Working Environment

#### Status of project

Completed

#### Type of project

Cross-sectional; Prospective (cohort); Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; The CAMB study invited three previous cohorts: The Metropolit Cohort, The Copenhagen Perinatal Cohort and the Danish Longitudinal Study on Work, Unemployment, and Health

#### Number of participants

5000

#### Age range

50 to 60 years

#### Webpage link

<http://nfa.dk/da/Forskning/Projekt?docId=138489b6-be6b-4f13-92a7-7820774be3e8>

#### Key publications

<https://www.ncbi.nlm.nih.gov/pubmed/27449417>

<https://www.ncbi.nlm.nih.gov/pubmed/29343243>

<https://www.ncbi.nlm.nih.gov/pubmed/28783203>

## Project Name

### **SeniorWorkingLife (Danish: SeniorArbejdsLiv)**

## Project description

Due to demographic changes across Europe there are strong political interests in maintaining the labour force by prolonging working life, i.e. increasing retirement age. The present study investigates push and stay mechanisms for labor market attachment among older workers or people who have recently retired. The study is a questionnaire survey, which is already funded. The ambition is to apply for further funding to do a cohort that is repeated every 2-3 years, as well as long-term register follow-up in Danish national registers about health and work. The study has 4 target groups: employed unemployed early retirement disability pension The questionnaire survey is sent to 30,000 Danish citizens and contains the following 14 areas: Basic information (demographics, employment status etc.) Broad overview of factors that may influence labor market attachment (health, working conditions, economic factors) Role of the workplace Age-discrimination Economy Specific questions about the possibility for 'early retirement' among employed and unemployed Gradual retirement (e.g. possibility for reduced time or responsibility) Competencies and continuing education/training of skills Return-to-work New technologies at the workplace Job satisfaction and well-being Working environment (physical, psychosocial etc.) Lifestyle Health and functional capacity The study is supported by a grant from TrygFonden

## Keywords

Senior worker; Ageing; Occupational health; Public health; Workplace; Sustainable employment

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## Institution

National Research Centre for the Working Environment

## Status of project

Ongoing

## Type of project

Cross-sectional; Prospective (cohort); Retrospective (cohort);

## Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

## Study population

General working population;

## Number of participants

30000

## Age range

18 to 80 years

## Webpage link

<https://clinicaltrials.gov/ct2/show/NCT03634410>

## Key publications

<https://www.ncbi.nlm.nih.gov/pubmed/30704447>

Project Name

**Importance of physical and psychosocial work environment for working beyond retirement age**

Project description

This study will investigate which factors in the working environment in +50 year workers that are associated with working beyond retirement age (65 years in this population) during long-term follow-up in high-quality Danish national registers

Keywords

Senior worker; Ageing; Occupational health; Public health; Workplace; Sustainable employment

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Institution

National Research Centre for the Working Environment

Status of project

Ongoing

Type of project

Prospective (cohort)

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General working population; Specific occupation(s)

Number of participants

5000

Age range

50 to 66 years

Webpage link

<http://nfa.dk/da/Forskning/Projekt?docId=640b1d30-6696-472c-b39a-74c1afbe437f>

Key publications

## Project Name

### **Influence of physical and psychosocial working conditions for the risk of disability pension among healthy female eldercare workers**

#### Project description

AIM: To investigate the influence of physical and psychosocial working conditions on the risk of disability pension among eldercare workers. METHODS: After responding to a questionnaire in 2005, 4699 healthy female eldercare workers - free from chronic musculoskeletal pain, depressive symptoms and long-term sickness absence - were followed for 11 years in the Danish Register for Evaluation of Marginalization. Time-to-event analyses estimated the hazard ratio (HR) for disability pension from physical exertion during work, emotional demands, influence at work, role conflicts, and quality of leadership. Analyses were mutually adjusted for these work environmental factors as well as for age, education, smoking, leisure physical activity and body mass index. RESULTS: During follow-up, 7.6% received disability pension. Physical exertion and emotional demands were associated with risk of disability pension, and both interacted with age. In age-stratified analyses, older eldercare workers (mean age 53 years at baseline) with moderate and high physical exertion (reference: low) were at increased risk with HRs of 1.51, 95% CI [1.06-2.15] and 2.54, 95% CI [1.34-4.83], respectively. Younger eldercare workers (mean age 36 years at baseline) with moderate emotional demands (reference: low) were at decreased risk with an HR of 0.57, 95% CI [0.37-0.85]. CONCLUSIONS: While a higher level of physical exertion is a risk factor for disability pension among older female eldercare workers, a moderate level of emotional demands is associated with lower risk among the younger workers. The age of the worker may be an important factor when providing recommendations for promoting a long and healthy working life.

#### Keywords

Care worker; age; disability; nurses; physical workload; psychosocial work environment

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#### Institution

National Research Centre for the Working Environment

#### Status of project

Completed

#### Type of project

Prospective (cohort)

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s)

#### Number of participants

4699

#### Age range

18 to 65 years

#### Webpage link

<https://www.ncbi.nlm.nih.gov/pubmed/30813841>

#### Key publications

<https://www.ncbi.nlm.nih.gov/pubmed/30813841>

## Project Name

### **SOC strategies - better and longer work life**

#### Project description

The use of SOC strategies (Selection, Optimization, Compensation) (Baltes & Baltes, 1990), has been associated with supervisor and self-rated job performance, job satisfaction, work engagement, self-rated workability, and intention to stay in bridge employment. We therefore assume that the use of SOC strategies contributes to a sustainable work life. However, knowledge on how these SOC strategies are manifested in practice is lacking and has so far only been measured at the individual level. The purpose of the study is to: 1) explore how SOC strategies are manifested at Danish workplaces at the individual as well as the group, management and organisational level, 2) develop a questionnaire to measure the use of SOC strategies at these four levels. We selected hospital nurses and employees from the dairy industry as participants because of their increased risk of premature exit from the labour market. First we conducted 4 focus group and 19 individual interviews. Based on these we developed a draft for the questionnaire. To validate it qualitatively, we are currently conducting 8 cognitive interviews with members of the target group. Next we will conduct a survey in selected dairies and among hospital nurses. The aim is to obtain 800 responses from each of the 2 occupational groups. By the use of factor analysis and other statistics, we will do the first quantitative validation of the questionnaire. We gained insight into how the SOC strategies are manifested at the four organisational levels in these two occupational groups, and based on this, propose an expansion of the SOC model to include group, management and organisational level. We expect to gain insight into the cross sectional associations between the use of SOC strategies at the four organisational levels and outcomes such as wellbeing, self-rated workability, and intention to stay at work. We also expect the questionnaire we developed to be ready for use in research and practice.

#### Keywords

SOC strategies; sustainable work; Senior employees; group level; management level; organisational level

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National Research Centre for the Working Environment

#### Status of project

Ongoing

#### Type of project

Cross-sectional; Qualitative interviews, questionnaire development

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s);

#### Number of participants

1600

#### Age range

. to . years

#### Webpage link

<http://nfa.dk/da/Forskning/Projekt?docId=69d9bf20-5ec1-4f2f-83f7-5a37c9f9488e>

#### Key publications

**Studies from the Finnish Institute of Occupational Health, Finland**

## Project Name

# **SYSTEMATIC ANALYSIS OF THE EFFECT OF WORK-RELATED DISEASES ON WORK PARTICIPATION IN FINLAND: POTENTIAL OF WORK-TARGETED INTERVENTIONS**

## Project description

The overall aim of the project is to produce a comprehensive and systematic view on the effect of work-related diseases on permanent withdrawal from the labour force and productive work participation among the Finnish workforce. We propose to create an indicator to quantify the burden of work-related diseases on work participation. This summary measure will combine in a single indicator working life years lost due to premature retirement (permanent withdrawal from the labour force) and years of non-productive work participation (working with diseases attributable to work). The ultimate motivation of the study is to produce a database containing systematic information ?by occupation or occupational group- on the potential of work-targeted interventions to enhance work participation.

## Keywords

musculoskeletal diseases; mental disorders; physical workload; psychosocial work-related factors; working life expectancy

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## Institution

Finnish Institute of Occupational Health

## Status of project

Ongoing

## Type of project

Prospective (cohort); Retrospective (cohort); Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

## Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

## Study population

General population;

## Number of participants

2500000

## Age range

18 to 70 years

## Webpage link

## Key publications

Eira Viikari-Juntura, Taina Leinonen, Lauri Virta, Kirsti Husgafvel-Pursiainen, Mikko Laaksonen, Ilona Autti-Rämö, Svetlana Solovieva. Utilisation of nationwide register data to assess the effectiveness of changes in sickness insurance legislation on work participation and analyse sickness absence and disability retirement trends in Finland. TBV ? Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde > Uitgave 7/2018  
Leinonen T, Viikari-Juntura E, Husgafvel-Pursiainen K, Solovieva S. Cause-specific sickness absence trends by occupational class and industrial sector in the context of recent labour market changes: a Finnish panel data study. BMJ Open. 2018 Apr 7;8(4):  
Solovieva S, Kontio T, Viikari-Juntura E. Occupation, Physical Workload Factors, and Disability Retirement as a Result of Hip Osteoarthritis in Finland, 2005-2013. J Rheumatol. 2018 Apr;45(4):555-562.

**Studies from the National Research and Safety Institute, France**

## Project Name

### **Work retention for older working women and drop-out prevention**

#### Project description

Considering the difficulties that older workers face in staying in work or finding a new job, the risk of professional drop out and how to prevent it are an important question. Because of their professional background, women are even more vulnerable to occupational breakdowns and early exits from work before the legal retirement age. The aim of our study is to give some responses at these questions focusing more particularly on low-skilled women over 50 : What conditions, factors and situations, in particular the health and working conditions promote the professional drop-out? how can working conditions and workplaces make it possible to support the activity of aging employees and help the construction of their health? This study adopted a double methodological approach, combining the use of narrative interviews, and data analyses from the national survey Health and Professional Pathways (SIP). The purposes are to propose actions in terms of keeping older employees at work, in particular to help occupational health services and HR to detect the risks of early exit from work, which also take into account gender specificities.

#### Keywords

women / drop out/ early end of active life

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INRS

#### Status of project

Ongoing

#### Type of project

Intervention - not randomized;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population; Specific occupation(s);

#### Number of participants

30

#### Age range

45 to 60 years

#### Webpage link

#### Key publications

## Project Name

### **Movement variability: characterisation during assembly work and capacity for integration into a computer aided design tool**

#### Project description

In all human movements, in particular those related to work activities, variability is observed. Even for a repetitive task, trajectories, muscular activities, or exerted forces are never identical, both for different people and for the same person at different times. Analysis of such variability is often ignored in work situation design in which is more focussed on seeking a single movement for optimising the task. For a long time variability was also neglected by the scientific community in its research on motor activity. Consideration is beginning to be given to it in work situation analysis relating to Musculo-Skeletal Disorders (MSDs) prevention and to the effects of ageing. Recent studies indicate that variability in muscular activity or in cinematics may have a preventive effect on the development of fatigue or on the risk of MSDs occurrence. Based on these considerations, this study aims firstly to analyse motor variability during work activities, and secondly to facilitate taking such variability into account in virtual humans used in work situation design. Movement variability will be analysed by means of biomechanical and physiological data for repetitive tasks. This study proposes two complementary research focuses. On one hand, characterising motor variability during work activities and describing different strategies for performing the same activity. On the other hand, developing models and algorithms in order to simulate this variability using virtual humans.

#### Keywords

age, movement variability

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#### Institution

INRS

#### Status of project

Completed

#### Type of project

Cross-sectional; Repeated cross-sectional; Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; General working population; Specific occupation(s);

#### Number of participants

82

#### Age range

30 to 65 years

#### Webpage link

#### Key publications

C. GAUDEZ, M.A. GILLES and J. SAVIN, Intrinsic movement variability at work. How long is the path from motor control to design engineering? Applied Ergonomics, 2016, 53, 71-78

J. SAVIN, M.A. GILLES, C. GAUDEZ, V. PADOIS and P BIDAUD, Movement variability and digital human models: development of a demonstrator taking the effects of muscular fatigue into account, - Proceedings 5th International Conference on Applied Digital Human Modeling and Simulation, AHFE 2016, 27-31 June 2016, Orlando (Floride) USA, pp. 169-179

## Project Name

### Changes to functional capacities and motor adaptations with age

#### Project description

Certain work situations, like those that can be observed during ?production line work?, are characterised, for employees, by strong spatial-temporal constraints. These situations are sources of motor and physiological demands that, in the short or longer term, can lead to health deterioration. This concern is reinforced by the current context of aging of the active population. To cope with these situations, employees seek to adopt less demanding motor strategies that depend notably on their functional capacities. However, numerous studies have shown that these cardio-respiratory functional capacities and the musculoskeletal system diminish with age. The aim of the present study was therefore to investigate the links between age-related functional capacity changes and the requirements of a physical task representative of those encountered in manufacturing industry, in order to identify the health preservation criteria of the over-50s. This study highlighted that even if certain functional capacities such as the cardiorespiratory functions can be maintained in good shape by physical activity, motor capacities tend to diminish with the advancement of age, even for healthy subjects. This diminishing of motor capacities can place the oldest employees in difficulty, even more so when the task requires heavy involvement of the lower limbs and when the rhythm increases. It is also important to take into consideration the fact that increasing the rhythms implies an increase in the force used, regardless of age. This observation is even more important for aging workers who already tend to use more force than younger workers. Finally, while motor strategies do not appear to depend on age, it must be borne in mind that the possibility of varying strategies diminishes with age and work rhythm, potentially resulting in excessive fatigue of certain muscular and/or osteoarticular groups due to the reduction in the possibilities of varying movements.

#### Keywords

age, functional capacities

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#### Institution

INRS

#### Status of project

Completed

#### Type of project

Cross-sectional; Repeated cross-sectional; Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; General working population; Specific occupation(s);

#### Number of participants

72

#### Age range

30 to 65 years

#### Webpage link

#### Key publications

M.A. GILLES, J-C. GUELIN, k. DESBROSSES and P. WILD, Motor adaptation capacity as a function of age in carrying out a repetitive assembly task at imposed work paces, Applied Ergonomics, 2017, 64, pp. 47-55

M.A. GILLES and P. WILD, Grasping an object at floor-level : Is movement strategy a matter of age ? Applied Ergonomics, 2018, 70, pp. 34-43

## Project Name

### **Evaluation of functional capacities according to the physical constraints encountered during the professional career and psychosocial factors**

#### Project description

Although in recent years tertiarization is importante the proportion of employees carrying out a physically hard work remains high. In activities with high physical constraints, the maintenance of physical functional abilities is essential to cope with the demands of work. However, studies show that repeated exposure to high physical loads can increase the risk of damage to the musculoskeletal system and the cardiorespiratory system. These damages could be the result of a progressive deterioration of functional abilities. Different factors can influence functional abilities. Some are known, such as advancing age, but others such as physical strain difficult and repeated over time or psychosocial factors require further investigation. The study aims to study the effects of physical and psychosocial constraints on physical functional abilities and their impact on perceived health. Being able to detect an early deterioration of functional capacities would make it possible to identify wear phenomena and to set up actions to limit them. It will be an epidemiological study conducted among 165 construction workers with the collaboration of an occupational health service. Questionnaires and interviews are used to analyze the physical, psychosocial and perceived health constraints encountered during the professional career. A set of physical tests evaluate all the functional capacities of the employees (muscular strength and muscular, cardiorespiratory capabilities, flexibility, dexterity, balance, quick gestures).

#### Keywords

functional capacities, physical constraints; psychosocial factor

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#### Institution

INRS

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s);

#### Number of participants

165

#### Age range

20 to 50 years

#### Webpage link

#### Key publications

## Project Name

### **Age-related impact of varied time constraints in an assembly task on biomechanical and physiological exertions**

#### Project description

Repetitive work at an imposed rate, like that observed on assembly lines, is often characterised by less temporal room for manoeuvre. This, however, would appear to be particularly useful for ageing employees to absorb intra-individual variability and to cope more easily with certain production vagaries. This study proposes measuring, in terms of physiological and biomechanical work stresses for two different age classes, the effects linked to the occurrence of vagaries involving an acceleration in work rhythm as well as those linked to the presence of an intermediate stock of work pieces while carrying out an assembly task. The effects of practicing muscular exercise on these stresses will also be studied in the oldest group. This study will be conducted in the laboratory on subjects belonging to two age classes (25-35 years old and 55-65 years old). Three assembly task execution conditions (without vagary, with vagaries, and with/without any possible anticipation on the part of the subjects) split between two different workstation configurations (with or without intermediate stock) are envisaged. Each experimental condition will be followed by a recovery period during which the older subjects, for certain protocol conditions, will be requested to carry out muscular exercises. The muscular exertions of the upper limbs, the back and the lower limbs, as well as heart rate and the articulation amplitudes of the upper limbs and trunk will be analysed with a view to determining the effects linked to age, task execution conditions, workstation configuration and practice of muscular exercises. This study should allow the definition of certain assembly-line design choices. The results of this work, to be conducted within the context of a thesis, will be exploited by way of scientific publications and/or presentations.

#### Keywords

age, temporal leeway

#### Contact

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#### Institution

INRS

#### Status of project

Completed

#### Type of project

Cross-sectional; Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; General working population; Specific occupation(s);

#### Number of participants

30

#### Age range

25 to 65 years

#### Key publications

M.A. GILLES, O. REMY, L. CLAUDON, K. DESBROSSES, A. PICHENEHOUE and P. WILD, Effect of time constraint on performance speed of a repetitive assembly task according to age- PREMUS 2016 - 9th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders - TORONTO - 20-23 Juin 2016

L. CLAUDON, K. DESBROSSES, P. WILD, M.A. GILLES, A. PICHENEHOUE and Olivier REMY, Effects of artifacts in a repetitive light assembly task on muscular activity according to age and work rate constraints- PREMUS 2016 - 9th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders - TORONTO - 20-23 Juin 2016

## Project Name

### **Factors of success and of failure in the process of returning to work after surgery for a work-related degenerative shoulder injury**

#### Project description

Among musculoskeletal disorders (MSDs) of the upper limb, work-related degenerative injuries to the tendons of the rotator cuff muscles, which stabilise the shoulder, are frequent, and particularly costly and disabling. Going back to work after such damage to the shoulder, and even more so after a surgical operation, constitutes a crucial step in the success of a process of returning to work, and in preventing occupational exclusion. It transpires that going back to work has a large number of determinants and that those determinants are partially elucidated. In order to improve the chances of returning to work, it would appear important to describe the prognostic factors contributing to a favourable outcome and to an unfavourable outcome for this process. The proposed study, which is a longitudinal epidemiological study on 120 employees, will be conducted in collaboration with the Institut Régional de Réadaptation (IRR, Regional Institute for Rehabilitation) of Nancy. In particular, it will aim to identify the underlying workings of the complex processes of returning to work, contributing to success or to failure of the process of returning to work, in terms of: the extent to which the functional capacities are consistent with the constraints related to the work; the expectations of the employee as regards recovering and returning to work; information on the coordination of all of the players in the process of returning to work (occupational health services, healthcare practitioners and care staff, national health insurance medical officers, disability players, etc.); re-induction into the company adapting working time and work content, occupational relations, etc.); and, where applicable, preparing for retraining with the relevant players. The study will comprise five stages for collecting objective and subjective data on the numerous aspects involved in the outcome of the process of returning to work for employees suffering from work-related shoulder injuries.

#### Keywords

Shoulder; rotator cuff disorders

#### Contact

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#### Institution

INRS

#### Status of project

Ongoing

#### Type of project

Repeated cross-sectional;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Patients;

#### Number of participants

110

#### Age range

30 to 63 years

#### Webpage link

#### Key publications

## Project Name

### **How can companies be helped to incorporate the issue of health and prevention better into age management policy?**

#### Project description

From "age management" to "professional pathways management through occupational health". A French case : renewed analysis of HRM practices. The French government is concerned with increasing demographic ageing, since usual responses are not economically sustainable anymore. This leads governments to take measures and issue injunctions in order to extend work life. Despite these efforts, it seems that apparently apathetic companies hardly take advantage of existing devices. In particular, they hardly link the "ageing question" to the "health at work" question, whereas the bonds between the two are tight and very well known. In order to explain this paradox, we reviewed the results of an exploratory case of ours, putting them into perspective with the results of an international literature review on age management practices. In this particular company, we observed that disinterest was nothing but apparent. This feeling was stemming from two items. First, the studies largely relied on the way legal devices were used. In doing so, researchers could not put the emphasis on other, unexpected initiatives, whereas they were evidence of major interest for the "ageing at work" question. Second, legal devices relied on an institutional "age management concept", that did not enable to deal with the specific problems that hardly affected this company, namely, occupational health problems springing up along time. This assessment led us to propose a new methodological approach: we focus on HR practices in their contexts, and consider all kinds of actors that hold or impact them. We also propose a new definition of what should "age management" be from our point of view: "professional pathways management through occupational health". Using our new definition and an appropriate methodological tool bag, we study eight domestic waste collection companies. We intend to observe if our concept can materialize and under which conditions.

#### Keywords

age ; health ; HRM practices ; professional pathway

#### Contact

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#### Institution

INRS

#### Status of project

Ongoing

#### Type of project

Qualitative observational study

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s);

#### Number of participants

110

#### Age range

23 to 58 years

#### Webpage link

#### Key publications

<https://www.agrh.fr/actes-des-congrs/> (see 2013 and 2018, in French)

**Studies from the Institute for Work and Health of the DGUV, Germany**

## Project Name

### Horizontal career change

#### Project description

The demographic change is leading to a shift in the age distribution of the workforce and to a clear shortage of skilled labour. The German legislature reacted to this fact by raising the statutory retirement age. Even now, however, there are skilled occupations which due to heavy workload cannot be exercised by employees remaining healthy until retirement age. That may lead to premature exit into retirement or into work incapacity or to a long spell of unemployment. The concept of a 'horizontal career change' describes a possible solution which enables workers to move from an occupation with high mental or physical burden on to a new occupation. This occupation should involve less or a different kind of stress on a similar qualification level as before while preserving the employee's social status. The Institute for Work and Health has developed a 'Digital Guide' in the form of an online portal providing information about the concept of such a career change for employees and employers against a backdrop of demographic change. The core piece of the Digital Guide is an ICT tool that includes a database of occupational profiles. To each occupation the specific stress factors and requirements, but also the required qualifications are assigned. When a user enters his or her personal profile, i.e., qualifications, preferences and possible health impairment, the tool runs this data against the profiles maintained in the database using a special algorithm. Eventually the output results in a list of matching occupations the person may change to. Changing the occupation at an early stage may help employees in the best possible way to reach the objective of 'entering retirement and being healthy'. The Digital Guide supports employees in finding a new well matching occupation and supports employers in managing the human resources of an ageing workforce.

#### Keywords

horizontal career change; demographic change; digital guide; ageing work force

#### Contact

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#### Institution

Institute for Work and Health of the DGUV

#### Status of project

Completed

#### Type of project

Development of an IT tool

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population; Patients; clients of rehabilitation programs

#### Number of participants

10

#### Age range

40 to 50 years

#### Webpage link

<https://www.dguv.de/hb/index.jsp> (in German only)

#### Key publications

<https://publikationen.dguv.de/dguv/pdf/10002/iag-report-2015-02.pdf>  
<https://www.tandfonline.com/doi/abs/10.1080/10803548.2014.11077035>  
<https://dl.acm.org/citation.cfm?doid=2637748.2638440>  
<https://link.springer.com/article/10.1007/BF03373956>

## **Studies from TNO, the Netherlands**

## Project Name

### **In or out of employment? How do national policies and economic climate determine health-selective employment in Europe**

#### Project description

Background: As the ageing workforce has major economic implications for society, workers need to remain in productive and sustained employment. To achieve this, understanding the exit routes from employment is crucial. Poor health strongly influences these exit routes. Even though various individual interventions on health were implemented in the past decades, exit rates among workers with health problems remain high, but also differ largely across European countries. This suggests that the macro-level context, such as policies and economics, are important. Until now, research in public health barely addressed the macro-level context. National policies and economic recessions occur as natural experiments which cannot be evaluated as formal experiments. To gain insight into these macro-level factors, innovative statistical methods that can deal with unobserved confounders are needed to estimate causal effects on health selection into paid employment. Objectives 1. to gain insight in the health selection mechanism towards different exit routes among workers in different socio-economic groups across European countries; 2. to evaluate the impact of policies and the economic recession on exit routes among workers with health problems across European countries by applying statistical causal models. Methods To assess the influence of poor health on different exit routes from employment, hazard ratios will be estimated using large national and international longitudinal studies. Further, I will apply innovative statistical models including interrupted times series, difference-in-difference method and fixed-effect regression, to evaluate the impact of two natural experiments (national policies and economic recession) on the exit routes of paid employment among workers with and without health problems.

#### Keywords

Chronic diseases; natural experiment; policies; economic; workers

#### Contact

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#### Institution

TNO

#### Status of project

Ongoing

#### Type of project

Prospective (cohort); Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population; workers in poor health

#### Number of participants

10000

#### Age range

45 to 64 years

#### Webpage link

#### Key publications

Project Name

**Quality of work - effect on early retirement**

Project description

Quality of work seems to be decreasing in the past few years. Longitudinal data of the Study on Transitions in Employment, Ability and Motivation (STREAM) were analysed to study the effect of quality of work on exit from work during 2010 and 2016. Results showed that quality indicators physical work environment, social work environment and job control seemed to prevent an early exit from work. The quality of work of lower educated persons was less than of higher educated persons. The effect of quality indicators on exit from work was not dependent on the educational status.

Keywords

Quality of work; early retirement; physical work environment; social work environment; job control; education

Contact

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Institution

TNO

Status of project

Completed

Type of project

Prospective (cohort);

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General working population;

Number of participants

9800

Age range

45 to 64 years

Webpage link

Key publications

[https://www.monitorarbeid.tno.nl/dynamics/modules/SFIL0100/view.php?fil\\_id=246](https://www.monitorarbeid.tno.nl/dynamics/modules/SFIL0100/view.php?fil_id=246)

## Project Name

### **The relative contribution of several determinants of sustainable employability among ageing workers**

#### Project description

Indicators for sustainable employability are work ability, productivity, sick leave, estimated labour market position, disability, unemployment, early retirement. To estimate the relative contribution to these indicators, longitudinal analyses were carried out. Also the PAFs of the indicators was estimated. An unfavourable score on one or more indicators is predicted by a broad range of determinants: health, work factors, knowledge and skills, social factors, financial factors and motivation. Health, and to a lesser extent work engagement, are strong predictors for several indicators of sustainable employability. For example, a poor mental and physical health are strongly related to a low work ability (OR 1.7 and 2.0), sickness absence (OR 1.6 and 2.3) and disability (OR 1.9 and 6.0). Low work engagement is strongly related to low work ability (OR 1.9). These relations between determinants and indicators of sustainable employability are rather similar in subgroups of workers. The PAFs showed that, at the population level, health and work engagement have a large effect on sustainable employability. The potential impact of an improvement in work factors, personal and financial factors is somewhat smaller.

#### Keywords

Sustainable employability; work participation; early retirement; work ability; health; PAF; work engagement

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#### Institution

TNO

#### Status of project

Completed

#### Type of project

Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

8000

#### Age range

45 to 64 years

#### Webpage link

#### Key publications

<http://publications.tno.nl/publication/34620329 /vo8gtg/heuvel-2016-relatieve.pdf>

## Project Name

### **Working longer in good health**

#### Project description

With an ageing population, increasing retirement ages, and a high prevalence of chronic health problems among older persons, it is important to understand how older workers [with health problems] can remain in productive and sustained employment. Accordingly, the following research questions were addressed: 1. What is the influence of work-related factors and work engagement on health? 2. To what extent does health influence productive and sustained employment? 3. Do work-related factors and coping style modify the influence of health on productive and sustained employment? Data from older (45-64 years) employees that participated in the Study on Transitions in Employment, Ability and Motivation (STREAM) were used to answer these research questions. STREAM is an observational longitudinal questionnaire study. The main conclusions are as follows: ? Highly engaged workers have greater improvement in physical and especially mental health during one-year follow-up than less engaged workers. ? Employees with an active, non-avoidant, coping style have a better work ability than employees with a non-active and avoidant coping style. ? Poor health adversely affects sustainable employability, this is especially the case for psychological health problems. However, favourable psychosocial work-related factors play an essential role, such as high autonomy and social support. These factors have a positive influence on sustainable employability, especially for workers with health problems. In conclusion, especially the promotion of favourable psychosocial work-related factors has the potential to greatly reduce that adverse health effects on sustainable employability.

#### Keywords

Sustainable employability; poor health; chronic health problems; psychological health problems; early retirement; disability pension; unemployment; work ability; sickness absence; productivity at work; work-related factors; psychosocial work-related factors; autonomy; psychological task demands; social support

#### Contact

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#### Institution

TNO/Erasmus University; currently: Ministry of Defense

#### Status of project

Completed

#### Type of project

Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

8000

#### Age range

45 to 64 years

#### Webpage link

<https://repub.eur.nl/pub/79215>

#### Key publications

<http://www.ncbi.nlm.nih.gov/pubmed/23440271>

<http://www.ncbi.nlm.nih.gov/pubmed/24973976>

<http://www.ncbi.nlm.nih.gov/pubmed/26112957>

<http://www.ncbi.nlm.nih.gov/pubmed/23054226>

## Project Name

### **Sustaining the employability of the low skilled worker**

#### Project description

Aim of the study was to gain more insight into the sustainable employability of lower educated (older) workers, to explore pathways to increase their employability and to explore methods to increase their participation in HR-activities aimed at their employability. In this project three potential routes in sustaining the employability of less educated workers were analysed: (1) development, (2) mobility and (3) work redesign. With regard to development was concluded that positive learning experiences improve less educated employees' pretraining self-efficacy. Also was concluded that only substantial off the job training (more than 5 days) has a positive effect on skills rematch. With regard to mobility, the relation of three mobility activities with perceived skills shortage was investigated, but no relation in the expected direction was found. With regard to work redesign, no empirical support was found for the hypothesis that work redesign (getting fewer, more or different tasks) help less educated older employees to recover from a perceived skills shortage.

#### Keywords

Low skilled workers; sustainable employability; skills; mobility work redesign; self-efficacy

#### Contact

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#### Institution

TNO/ROA/Maastricht University

#### Status of project

Completed

#### Type of project

Cross-sectional; Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population; Low educated workers

#### Number of participants

9000

#### Age range

16 to 64 years

#### Webpage link

#### Key publications

[http://www.boomlemmatijdschriften.nl/tijdschrift/TvA/2012/4/TvA\\_0169-2216\\_2012\\_028\\_004\\_006](http://www.boomlemmatijdschriften.nl/tijdschrift/TvA/2012/4/TvA_0169-2216_2012_028_004_006)

[http://www.boomlemmatijdschriften.nl/tijdschrift/TvA/2015/3/TvA\\_0169-2216\\_2015\\_031\\_003\\_006](http://www.boomlemmatijdschriften.nl/tijdschrift/TvA/2015/3/TvA_0169-2216_2015_031_003_006)

## Project Name

### **Non-traditional work patterns in older workers and their relation with health**

#### Project description

So far, five sub research questions have been addressed. Firstly, we studied predictors of transitions from single to multiple job holding, during three years of follow-up. We found that a wide range of factors predicted such transitions, e.g. educational level, contract type, working hours, physical work demands, and household financial situation. Secondly, we conducted a qualitative study on experiences with MJH. We found that some multiple job holders mainly experience benefits, e.g. positive spill-over effects, others mainly experience disadvantages, e.g. stress due to combining work schedules. In addition, some did not experience many benefits or disadvantages. Work characteristics (e.g. autonomy regarding working hours) as well as personal characteristics (e.g. household financial situation) seemed to influence experiences with MJH. Thirdly, because previous research, among which our own studies, have shown that multiple job holders are a heterogeneous group, we distinguished distinct groups of multi-jobbers using latent class analyses and explored health differences between them cross-sectionally as well as after one year of follow-up. We found four groups. The one labelled 'vulnerable multi-jobbers' experienced worse health in cross-sectional analyses. In addition, a study using linkage of a Danish cohort to national registry data, aimed to analyse whether multiple job holders more often experienced long-term sickness absence (LTSA). This study was conducted among employees of all ages, and found no differences between multiple and single job holders regarding LTSA. Further, in a study using the Netherlands Working Conditions Survey, we studied health differences between multiple and single job holders among workers in precarious employment. No differences were found.

#### Keywords

Multiple job holding; health; aging workers; prediction model; cohort;

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#### Institution

TNO/VUmc

#### Status of project

Ongoing

#### Type of project

Cross-sectional; Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population; multijobholders

#### Number of participants

15000

#### Age range

45 to 70 years

#### Webpage link

#### Key publications

<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-5841-7>

<https://link.springer.com/article/10.1007/s00420-018-1351-2>

<https://link.springer.com/article/10.1007/s00420-018-1351-2>

## Project Name

### **From early retirement to working beyond retirement**

#### Project description

Many developed countries are confronted with ageing populations, due to the increase in life expectancy and long-term decline in fertility rates. As a consequence, the ratio of the retired elderly to the active working population increases. This puts a pressure on the social security system, and causes tension in the solidarity between generations. Many governments respond to the ageing of the population by increasing the statutory retirement age and discouraging early exit from the workforce. However, many workers leave the workforce before the statutory retirement age. In her doctoral thesis, Astrid de Wind (VU University Medical Center, Department of Public and Occupational Health) investigated determinants of, and mechanisms underlying early retirement and working beyond retirement. She found that the transition from work to early retirement is influenced by various domains, i.e., health, job characteristics, skills and knowledge, and social and financial factors. These domains influenced early retirement through lower work ability, lower work motivation and less opportunity to work.

#### Keywords

retirement; ageing; bridge employment; work ability; motivation;

#### Contact

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#### Institution

TNO/VUmc; currently: Radboud University Nijmegen

#### Status of project

Completed

#### Type of project

Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

8000

#### Age range

45 to 64 years

#### Webpage link

<http://www.emgo.nl/news-and-events/news/857/from-early-retirement-to-working-beyond-retirement/>

#### Key publications

<http://www.ncbi.nlm.nih.gov/pubmed/24132500>

<http://www.ncbi.nlm.nih.gov/pubmed/25393088>

<https://www.ncbi.nlm.nih.gov/pubmed/27907223>

## Project Name

### **Contribution of health and work to exit from paid employment across various educational groups**

#### Project description

Objectives: Assess the contribution of chronic health problems and work characteristics to exit from paid employment among workers with a low, intermediate or high level of education. Methods: A longitudinal analysis was performed among 16,348 Dutch workers aged 15-64 years who participated in the Netherlands Working Conditions Survey 2007 with data on chronic health problems and work characteristics. These data were enriched with register data on employment status. Cox proportional hazards regression analyses were performed to investigate the association between chronic health problems, work characteristics and exit from paid employment through disability benefits, early retirement, unemployment or economic inactivity during seven years of follow-up (2007-2014) stratified by educational level. Population attributable fractions (PAFs) were calculated to estimate the contribution of significant factors to the specific pathways.

#### Keywords

Education; paid employment; chronic health problems; work characteristics

#### Contact

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#### Institution

TNO

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

16000

#### Age range

16 to 64 years

#### Webpage link

#### Key publications

## Project Name

### **Company measures to prolong working life**

#### Project description

Which measures do companies take to prolong the working life of their employees? Are customized measures possible and how often do they take customized measures? Are these type of measures related to company performance and employability of the workers? To answer these questions, data were used from the National Survey for Employers. Over the period 2010 to 2016 trends are analysed, company characteristics and relations with indicators of company performance and employability of personnel. The results show that more companies are taking measures to prolong working life. Measures to spare older workers (e.g. working hours adjustments or exemption for shift work) are more popular than incentive measures (e.g. career interviews, vocational retraining). Large companies, non-profit companies and companies linked to a trade organisation take more often measures to prolong working life, in particular in the sectors education and public administration.

#### Keywords

Company measures; company performance; employability;

#### Contact

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#### Institution

TNO

#### Status of project

Completed

#### Type of project

Cross-sectional; Repeated cross-sectional;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Companies

#### Number of participants

5000

#### Age range

99 to 99 years

#### Webpage link

#### Key publications

[https://www.monitorarbeid.tno.nl/dynamics/modules/SFIL0100/view.php?fil\\_Id=247](https://www.monitorarbeid.tno.nl/dynamics/modules/SFIL0100/view.php?fil_Id=247)

**Studies from National Institute of Occupational Health, Norway**

## Project Name

### **Work ability for employees in physically demanding work**

#### Project description

The primary objective of this study is to generate knowledge that may be used to improve the mechanical work exposures at work, not only making it possible for the seniors to stay longer in working life, but also to prevent musculoskeletal disorders for all age groups. Secondary objectives: 1. How physically demanding is health care work? 2. How physically demanding is construction work? 3. To what extent do mechanical demands of construction and health care work include known risk factors for musculoskeletal disorders? 4. Does the employee's physical capability (aerobic power, endurance and muscle strength) match the mechanical demands of work in these groups? 5. To what extent will mechanical work demands, related to the employees physical capabilities (i.e. work ability), influence the risk for musculoskeletal disorders? 6. What is the dose-response relationship between mechanical work load and the risk of for musculoskeletal disorders?

#### Keywords

mechanical demands; physical capabilities; musculoskeletal disorders

#### Contact

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#### Institution

National Institute of Occupational Health, Norway

#### Status of project

Ongoing

#### Type of project

Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s);

#### Number of participants

600

#### Age range

18 to 70 years

#### Webpage link

[https://stami.no/prosjekt/mekaniske-eksponeringer -tungt-arbeid-alder-smerter-og-arbeidsevne](https://stami.no/prosjekt/mekaniske-eksponeringer-tungt-arbeid-alder-smerter-og-arbeidsevne)

#### Key publications

Lunde L-K, Koch M, Knardahl S, Wærsted M, Mathiassen SE, Forsman M, Holtermann A, Veiersted KB. Musculoskeletal health and work ability in physically demanding work: study protocol for a prospective field study on construction and health care workers. BMC Public Health, 2014, 14:1075, <http://www.biomedcentral.com/1471-2458/14/1075>

Lunde L-K, Koch M, Veiersted KB, Moen G-H, Wærsted M, Knardahl S. Heavy physical work: cardiovascular load in male construction workers. International Journal of Environmental Research and Public Health, 2016, 13, 356; doi:10.3390/ijerph13040356.

Koch M, Lunde L-K, Gjulem TS, Knardahl S, Veiersted KB. Validity of questionnaire and representativeness of objective methods for measurements of mechanical exposures in construction and health care work. PLOS One, September 2016, <http://dx.doi.org/10.1371/journal.pone.0162881>.

Merkus S.L, Lunde L.K., Koch M., Wærsted M., Knardahl S., Veiersted K.B. Physical capacity, occupational physical demands, and relative physical strain of older employees in construction and healthcare. International Archives of Occupational and Environment Health, (published online, November 2018)

## Project Name

### **Psychosocial work factors, persistent pain and sickness absenteeism ? the role of mental distress and epigenetic changes**

#### Project description

The purpose of the project is to provide new knowledge on how psychosocial work factors may lead to persistent back pain and workplace absenteeism. In particular, we will examine if work factors (leadership, workaholism, role conflict, alcohol and bullying) through physiological or epigenetic changes may contribute to chronic pain, early retirement and increase the risk of disability pensioning. A combination of many types of data regarding psychosocial problems, microRNA/DNA changes, pain and sickness absenteeism are used. The results show that social stress may be associated with regulation of several circulating microRNA, which in turn are associated with anxiety or pain. The data also show that social stress influence on the immune system, which in turn may have many negative health effects. Whether or not these physiological changes also include increased or reduced methylation of DNA in genes that is important for the HPA-axis, remains to be investigated.

#### Keywords

psychosocial work factors; leadership; genetics; microRNA; pain; insomnia; sick leave; early retirement

#### Contact

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#### Institution

National Institute of Occupational Health, Norway

#### Status of project

Ongoing

#### Type of project

Prospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

1700

#### Age range

18 to 62 years

#### Webpage link

[https://stami.no/prosjekt/psykososiale -arbeidsfaktorer-langvarige-ryggsmerter-og -sykefravaer-betydningen-av-psykiske-plager-og -epigenetiske-forandringer/](https://stami.no/prosjekt/psykososiale-arbeidsfaktorer-langvarige-ryggsmerter-og-sykefravaer-betydningen-av-psykiske-plager-og-epigenetiske-forandringer/)

#### Key publications

Glambek M, Nielsen MB, Gjerstad J, Einarsen S. Gender differences in the relationship between workplace bullying and subjective back and neck pain: A two-wave study in a Norwegian probability sample. *J Psychosom Res* 2018; 106: 73-75.

Jacobsen DP, Nielsen MB, Einarsen S, Gjerstad J. Negative social acts and pain: evidence of a workplace bullying and 5-HTT genotype interaction. *Scand J Work Environ Health* 2018; 44(3): 283-290.

Nielsen MB, Gjerstad J, Frone M. Alcohol use among Norwegian workers: associations with health and well-being. *Occup Med (Lond)* 2018; 68(2): 96-98.

Andreassen CS, Nielsen MB, Pallesen S, Gjerstad J. The Relationship Between Psychosocial Work Variables and Workaholism: Findings From a Nationally Representative Survey. *Int J Stress Man* 2017 10.1037/str0000073.

Project Name

**Primary prevention of health complaints and sickness absence in the recycling industry**

Project description

The purpose of this project is to provide new knowledge on effects of efforts targeting primary prevention of health complaints and sickness absence in the recycling industry in Norway. The effort is survey-feedback method for improvement of the work environment. Data is collected by a survey containing questions on work environment and health. The participants fills out the questionnaire on three occasions during the project period, with one year between each time. Efforts directed towards primary prevention of health complaints and sickness absence are developed after the first round. Information on the process of developing and integrating efforts is collected by regular semi-structured interviews by telephone. Information on sickness absence is collected from the participating organizations records. Results of this project will be ready at the end of 2019.

Keywords

recycling industry; survey-feedback method; semi-structured interviews; sickness absence;

Contact

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Institution

National Institute of Occupational Health, Norway

Status of project

Ongoing

Type of project

Intervention - randomized; Prospective (cohort);

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

Specific occupation(s);

Number of participants

650

Age range

19 to 71 years

Webpage link

Key publications

## Project Name

### **The new workplace: work, health, and participation in the new working life**

## Project description

The main aims are to characterize the impact of a comprehensive set of psychological, social, organizational, and mechanical work factors on (i) health complaints, (ii) sickness absence, and (iii) disability retirement, and to identify moderating and mediating variables. Participants recruited through their workplaces (organizations). Survey administered at 2-year intervals. Extensive survey questionnaire measures task-level, group-level, and organization-level work factors, changes, attitudes, coping strategies, personality traits, subjective health complaints, work ability. This project has not addressed main effects of age. The project has resulted in 27 publications of original results in international peer review journals by December 2018.

## Keywords

Work factors; health complaints; disability retirement

## Contact

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## Institution

National Institute of Occupational Health, Norway

## Status of project

Ongoing

## Type of project

Prospective (cohort);

## Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

## Study population

Specific occupation(s);

## Number of participants

8600

## Age range

18 to 67 years

## Webpage link

[https://stami.no/prosjekt/den-nye-arbeidsplassen -arbeid-helse-og-deltakelse-i-arbeidslivet/](https://stami.no/prosjekt/den-nye-arbeidsplassen-arbeid-helse-og-deltakelse-i-arbeidslivet/)

## Key publications

Christensen JO, Knardahl S. Time-course of occupational psychological and social factors as predictors of new-onset and persistent neck pain: a three-wave prospective study over 4 years. *Pain* 2014; 155(7): 1262-1271.

Krane L, Knardahl S, Nielsen MB. Does dispositional optimism moderate the relationship between role conflict and risk of disability retirement? *Ind Health* 2018.

Nielsen MB, Christiansen S, Indregard AM, Emberland JS, Elka S, Knardahl S. The new workplace II: protocol for a prospective full-panel registry study of work factors, sickness absence, and exit from working life among Norwegian employees. *Springerplus* 2016; 5: 243.

Nielsen MB, Emberland JS, Knardahl S. Response to Predictors of Disability Retirement With Special Reference to Workplace Bullying. *J Occup Environ Med* 2018; 60(5): e282.

## Project Name

### **Work ability of construction workers 50+**

#### Project description

Senior workers show great variations in functional ability, and they can therefore not be treated as a homogenous group. If one wants to keep the senior workers longer in the working life, the starting point should be the individual person's real functional ability. This means that the working capacity depends on both functional ability and job demands. Work in the construction industry is physically demanding and influence the workers physical and psychological resources. A common and important misunderstanding is that workers with physically demanding tasks maintain their physical work capability. However, investigations indicate that this is not correct. With increasing age a predetermined biological reduction in the individual work ability take place, which must be taken into consideration. Some investigations show a positive relation between physical aerobic capacity and physical work exposures in young workers and a positive relation between muscle strength and work load at older workers. In contrast to these findings other investigations among middle-aged and older workers who have had a physical demanding job throughout their working career, observed a negative relationship between aerobic power and physical activity at work. This supports the hypothesis that long-lasting physically demanding work activity may have a negative effect on the physical work ability, probably in combination with aging. A possible explanation may be that the work is so demanding physically that the employees are 'worn out' at the end of the day, but at the same time is the work exposures too low to give a substantial training effect. Senior workers (+50 yr old) were therefore engaged in a small construction company. The purpose was to reveal conditions that may lead the seniors to stay in the company until they reach the age of normal retirement of 67 year (national insurance).

#### Keywords

physical demands; aerobic power; early retirement

#### Contact

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#### Institution

National Institute of Occupational Health

#### Status of project

Completed

#### Type of project

Cross-sectional;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s);

#### Number of participants

87

#### Age range

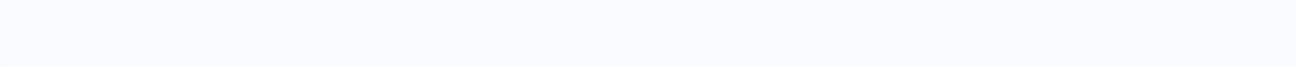
19 to 62 years

#### Webpage link

#### Key publications

Jebens E, Medbø JI, Knutsen O, Mamen A, Veiersted KB. Association between perceived present working conditions and demands versus attitude to early retirement among construction workers. *Work*, 2014, 48; 217-228.

Jebens E, Mamen A, Medbø JI, Knutsen O, Veiersted KB. Are elderly construction workers sufficiently fit for heavy manual labour? *Applied Ergonomics*, 2015, 58 (3); 450-62, <http://dx.doi.org/10.1080/00140139.2014.977828>



**Studies from the Central Institute For Labour Protection, Poland**

## Project Name

### **Development of a psychological diagnosis system and adaptation support programme for professional reintegration purposes**

#### Project description

The subject of the project is to develop a psychological diagnosis system and an adaptation support programme for professional reintegration for people temporarily excluded from the labour market - older people (50+) and people with disabilities. The objective of the project will be achieved by: ? development of a project of psychological diagnosis system for elderly people and people with disabilities for professional adaptation (based on the assessment of: psychosocial predispositions, cognitive functions, personality, behaviour, professional preferences) and an adaptation support programme for the purposes of professional reintegration, ? conducting pilot studies in the group of elderly people 50+ (20 people) and people with disabilities (40 people) verifying the effectiveness of the psychological diagnosis system and the adaptation support programme, ? development of the final (verified) version of the psychological diagnosis system and the adaptation support programme described in the form of a manual and training materials intended for vocational counsellors. The psychological diagnosis system will include an initial psychological assessment (e.g. life situation, work preferences, motivation to work, initial assessment of behaviour) and a detailed assessment of psychological competences (welfare, questionnaire assessment of professional motivation and preferences, cognitive intelligence and processes, personality and temperament, ways of dealing with stress, emotional intelligence and social competences, perceptual and psychomotor skills). The aim of the adaptation support system will be: improvement of mental and physical well-being, increasing self-knowledge skills and defining features and preferences conducive to starting or changing economic activity, increasing the ability to change attitudes that limit starting economic activity.

#### Keywords

diagnosis; exclusion; disabilities; psychosocial factors

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Development of a diagnosis system

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; Patients; People with disabilities

#### Number of participants

60

#### Age range

20 to 63 years

#### Webpage link

#### Key publications

## Project Name

### **Predictors of the intention to continue working after the retirement age**

#### Project description

The study focused on the intention to continue working after retirement age. It has been hypothesized that both individual and environmental factors allow to predict the intention to continue working. The individual predictors factors included: psychological age, work ability, psychological well-being (first of all: burnout, depression), self-efficacy, sense of life (life attitudes). The environmental factors included psychosocial working conditions have been taking into account i.a. : influence at work, work variation support from the supervisor, job security, salary. The study sample comprised general population of 1270 employees (16-64 years old). The questionnaires used in the study were: COPSOQ ?II (selected scales), Life Attitude Profile, Work Ability Index (short version). The results showed that the intention to continue working is significantly related to the number of individual factors, such as: (1) psychological age - positively related (the higher age the higher intention to continue working), (2) self-efficacy - positively related, (3) sense of life ? positively with various scale of sense of life; (4) psychological well-being ? negatively correlated for various indicators of low well-being, such as burnout, depression or cognitive stress, (5) work motivation: positive correlation with intrinsic motivation and no correlation with external motivation. It suggests that the intention to continue working based on intrinsic values of work. The intention to continue working was also positively correlated with environmental factors such as influence at work, support from the supervisor. On the other hand the job insecurity and cognitive demands were negatively correlated with the intention to continue working. The results of the study were included in the guidelines (in Polish) for employers and HR professionals on age management.

#### Keywords

intention to work; retirement; psychosocial working conditions; wellbeing

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Completed

#### Type of project

Cross-sectional; Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

1270

#### Age range

16 to 64 years

#### Webpage link

#### Key publications

## Project Name

### **Performance and personality profile of professional drivers aged 55+**

#### Project description

The project concerned a performance and personality profile of professional drivers aged 55+, which was developed on the basis of the results of research aimed at an analysis of age-related changes in the personality traits and skills of professional drivers, determining their safe driving behaviour. The sample comprised 501 active professional drivers aged 20-67 yrs. (M = 38.3, SD = 12.14), with a min. of 2 yrs of work experience, who had never caused a road crash or a traffic collision in the past 2 yrs. The results showed that the level of performance systematically decreased with age, the results of the oldest drivers (aged 55+) were significantly worse than those generated by the younger age groups. Cluster analysis revealed that the predominant percentage of the oldest drivers (45.8%) had the weakest profile of "psychomotor" fitness to drive, with poor visuomotor coordination, reaction time, time anticipation, and visual functions. The drivers from the younger age group had the largest representation (63.8%) in the best "psychomotor" profile with the best time anticipation, visual functions, visuomotor coordination, high level of cognitive processes and reaction time. For personality traits, drivers 55+ were strongly represented (45.1%) in the best of the four selected "personality" profiles, with the lowest Impulsivity and Psychoticism, low Neuroticism and Venturesomeness. The youngest drivers had the largest representation (48.9%) in the profile considered the riskiest one from the point of view of traffic safety, with the highest level of Psychoticism as well as Venturesomeness, and the lowest Empathy. The profile of professional drivers aged 55+, indicates their reduced psychomotor and cognitive performance, but greater maturity in terms of personality traits. However, age-related changes in the area of personality and performance which are critical to driving behaviour may create a risk of road accidents caused by professional drivers aged 55+.

#### Keywords

aging; drivers; personality traits; work ability; driving behaviour

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Completed

#### Type of project

Cross-sectional;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s); Professional Drivers

#### Number of participants

501

#### Age range

20 to 67 years

#### Webpage link

#### Key publications

<https://www.sciencedirect.com/science/article/pii/S0001457514001055>

<http://medpr.imp.lodz.pl/Artefakty-w-opartych-na-metodach-kwestionariuszowych-badaniach-psychologicznych-kierowcow,387,0,2.html>

## Project Name

### **Study of the effect of glare on the ability of perception among elderly for the purpose of determining unified glare rating (UGR) when designing the lighting in working rooms.**

## Project description

The aim of the project was to develop test methods for testing the effect of glare on the ability of perception and degree of glare sensation among the elderly and to develop recommendations of preferred unified glare rating values (UGR) when designing lighting for the elderly. To achieve this purpose a control room was built and a method of experimental research on the influence of discomfort glare on perception among elderly 50+ was developed. To measure the ratio of glare UGR a portable system for measuring the luminance LMK Mobile Advanced Imaging Photometer (photometer LMK) was purchased with LMK LabSoft software, and a method to measure the UGR using the photometer was developed. A method to test the effect of glare on the ability perception was developed using a CCD calibrated camera to measure the luminance distribution that was verified in the pilot studies. Next, a proper study was carried out in a group of 65 people: 33 from the group of 50+ and 32 people from the control group (aged 19-34 years) for two modeled conditions of discomfort glare at UGR = 19 and UGR = 22 designated computationally in DIALux program designed for lighting design. The results became a basis for development of training materials on the test method of discomfort glare at workstation using a CCD camera calibrated to measure luminance, and recommendations for lighting designers on the choice of the unified glare rating (UGR) when designing the lighting for the elderly. In conclusion, the younger population seems to be more sensitive and demanding than the older one in relation to discomfort glare limits, in spite of the lack of significant objective measures of fatigue. The exposure of the elderly to bigger discomfort glare could adversely affect the objective measures of fatigue such as mesopic glare sensitivity and visual performance.

## Keywords

discomfort glare; lighting; cognitive performance; 50+; UGR

## Contact

Agnieszka Wolska, agwol@ciop.pl

## Institution

Central Institute For Labour Protection - National Research Institute, Poland

## Status of project

Completed

## Type of project

Intervention - randomized; Cross-sectional; Retrospective (cohort); Laboratory experiment

## Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

## Study population

General population;

## Number of participants

65

## Age range

19 to 65 years

## Webpage link

## Key publications

<https://link.springer.com/content/pdf/10.2478/s13382-014-0257-9.pdf>

## Project Name

### **Determinants of health-related behaviours and their effect on men's work ability.**

#### Project description

The main objective of the project is to identify the determinants of pro- and anti-health behaviours and their impact on health and work ability among men of working age. To identify the strongest determinants of men's health behaviours, the following work is planned to be carried out: - Assessment of men's pro-health behaviours (e.g. in terms of nutrition, physical activity, dealing with stress, etc.) and anti-health behaviours (e.g. smoking, abuse of alcohol) - Evaluation of the relationship between pro- and anti-health behaviour and the work ability of men - Evaluation of relations between pro- and anti-health behaviours and attitudes towards health and disease - Definition of predictors of pro- and anti-health behaviour of men - Determination of motives for taking pro- and anti-health behaviours. Questionnaire research is carried out with the use of standard tools and a survey developed for the needs of the project in a group of at least 600 men and in-depth interviews among about 50 men in the working age, including people aged 50+. Questionnaire-based research will allow to identify the factors determining pro- and anti-health behaviours and to identify the predecessors of such behaviours. Additionally, in-depth interviews will facilitate the understanding of men's motivation to undertake these behaviours. On the basis of the results obtained, a pilot version of the educational programme on a healthy lifestyle for men, to be used in the workplace, will be developed. The programme will include lecture scenarios. After verification of the pilot version, a final version will be developed.

#### Keywords

Health; Health behaviours; Workability; Educational Programme

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; General working population; Men

#### Number of participants

.

#### Age range

18 to 65 years

#### Webpage link

#### Key publications

## Project Name

### **Development of a reference database including physical and functional capabilities for the professional profiling of the elderly and the disabled people**

#### Project description

Having regards the ageing population, the number of people requiring special vocational training (retraining) due to physical or mental disabilities, including in particular those acquired in the work process as a result of ageing, will increase. The individual adaptation of the workplace to the employee's psychophysical abilities is an important element from the point of view of ergonomic objectives. Data are therefore needed to enable the adoption of criteria to monitor workers' changing physical characteristics with age. The aim of this project is to develop a reference database of strength and functional characteristics (e.g. maximum strength capabilities, joint angles, hand-eye coordination) for occupational profiling of older people and people with disabilities. The study covers people in two age groups: 55-67 years old and 20-30 years old. The assumed number of the surveyed people in the project is 260. In each of the examined groups 10% of the population will be people with a low degree of motor disability. During the research, the following data relating to the strength and functional capabilities of the human being are collected: Hand Grasp Strength (hand grasp, pincer grasp); Strengths and moments of forces in upper and lower limb joints; upper limb hand-eye coordination parameters; lower limb hand-eye coordination parameters; body balance parameters; walking parameters; functional forces exerted by the whole body (lifting, pushing and pulling); functional fingers dexterity; functional ranges of motion of upper limbs, functional ranges of motion of the whole body; functional hand-eye-foot coordination. Measurements will be carried out using a posturographic platform and a system for measuring strengths and moments of forces in joints.

#### Keywords

psychophysical abilities; database; occupational profiling; fitness;

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population;

#### Number of participants

260

#### Age range

20 to 67 years

#### Webpage link

#### Key publications

## Project Name

### **Development of a physical training programme for firefighters considering age-related changes in physical capacity**

#### Project description

The aim of this project is to develop a physical training programme for common use for firefighters, which will take into account the decrease in physical fitness with aging. As part of the task, a review will be carried out of the forms of individual physical training, which currently operate, both in Poland and in other countries, mainly based on the possibility of their application by people of different ages, depending on physical fitness, the principles practiced. There will also be conducted interviews with firefighters about current training methods in order to maintain high physical fitness. Physical fitness analysis will be carried out based on the results of systematic tests among working firefighters in their home units on the basis of applicable regulations. This analysis will be the basis for the development of a training programme for firefighters, taking into account their age. The prepared training programme will be verified on a selected group of firefighters, representing two 15-person age groups (the youngest and the oldest group of employed firefighters, including people aged 50+). Verification will be based on performing exercises for a period of 2 months, according to a developed program, adjusted to the current level of physical fitness of firefighters, directed at each group, under the supervision of physiotherapists. Persons participating in the testing of the program will evaluate the training program according to the prepared questionnaire. Before and after the testing period of the program, the participating group of firefighters will perform a test of physical fitness to check the effectiveness of training. Conclusions from subjective and objective tests will be the basis for the preparation of the final version of the training program for firefighters, taking into account changes in physical fitness with age. The program will be presented during the pilot training for firefighters.

#### Keywords

firefighters; physical training; physical fitness

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Intervention - randomized;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s); Firefighters

#### Number of participants

30

#### Age range

20 to 55 years

#### Webpage link

#### Key publications

## Project Name

### **Workload assessment of women aged 55+, employed in the retail sector performing physical work**

#### Project description

The main objective of the project is to assess the actual workload of women aged 55+ doing physical work in the retail sector in commercial objects of different sizes of sales space and to answer the question whether the physical capacity of these workers is adequate for the requirements of the job. The following work will be carried out as part of the project: ? identification of workplaces in the retail sector where mainly women aged 55+ performing physical work are employed (based on a questionnaire survey), ? assessment of occupational hazards at physical workstations for women aged 55+ employed in the retail sector (based on a questionnaire survey), ? assessment of the ability to work of women aged 55+ doing physical work in retail trade (questionnaire surveys), ? ergonomic assessment of the severity of physical work (dynamic and static effort, monotony) in a selected group of women (field studies - 300 persons), ? evaluation of physical fitness and selected motor skills in a selected group of women (laboratory tests - 30 persons), The final result of the task will be the development of information materials on occupational hazards at physical work positions in the retail sector and the possibility for women aged 55+ to perform this type of work and adjust work requirements to the physical capabilities of these workers. Information materials will be addressed to employers, OSH specialists and physical workers aged 55+. There will also be prepared training materials and pilot training for employers and OSH specialists on occupational hazards at physical work positions in the retail sector and the possibility for women aged 55+ to perform this type of work and adapt work requirements to the physical capabilities of these workers.

#### Keywords

physical workers; female workers; workload assessment; motor skills

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort); Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

Specific occupation(s); women working in the retail sector

#### Number of participants

330

#### Age range

55 to 64 years

#### Webpage link

#### Key publications

Project Name

**Age and use of hand-eye coordination tasks in improving human cognition and precision in manual tasks**

Project description

The aim of the project is to investigate the impact of hand-eye coordination tasks on cognitive functions and the precision of manual activities. The specific aim of the project is to investigate the effects of training improving cognitive functions and the precision of manual activities in a group of elderly people compared to young people. Comparative studies on cognitive functions and precision of manual activities are conducted on two 25-person groups: at the age of 20-30 and at the age of 60-67. In addition, a group of 55-67-year-olds is trained to improve cognitive function and precision of manual activities. The aim of the study is to confirm the hypothesis that performing hand-eye coordination tasks will result in the effect of increasing cognitive functions and precision of manual activities. Since accuracy decreases with age, especially in tasks requiring bimanual coordination, it can be expected that this effect will be especially visible in the group of 55-67-year-olds.

Keywords

hand-eye coordination; cognitive aging; cognitive training; cognitive functions

Contact

Danuta Roman-Liu, daliu@ciop.pl

Institution

Central Institute For Labour Protection - National Research Institute, Poland

Status of project

Ongoing

Type of project

Cross-sectional; Repeated cross-sectional; Laboratory experiment

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General population;

Number of participants

50

Age range

20 to 67 years

Webpage link

Key publications

## Project Name

### **Stereotype threat, wellbeing and work attitudes of employees 50+**

#### Project description

The aim was to investigate the relationship between a stereotype threat at work and wellbeing and work attitudes of employees aged 50+. A sample of 1007 white and blue collar polish employees aged 50-72 (M = 56,3; SD = 4,17), women (56,7%) and men (41,7%) participated in the study. The measuring instruments included: Stereotype Threat at Work Scale (von Hippel et al., 2013); Social Capital at Work Scale (Kouvonen et al., 2006); Psychological Capital Questionnaire (Luthans, Youssef & Avolio, 2007); The Multidimensional Work Motivation Scale (Gagné et al., 2014); Work Ability Index (WAI-Netzwerk, 2012); COPSQ II (Pejtersen et al., 2010); Intent to continue work after reaching the retirement age and intent to participate in professional development was measured using single components. The results of the study showed that employees with a high stereotype threat declared a lower level of psychological capital, social capital at work, autonomous motivation to work, workability, higher level of stress and depression symptoms, intent to leave work after reaching the retirement age and a lower intent to participate in professional development, comparing to employees with a low stereotype threat. To sum up, the results indicate that feeling of stereotype threat is related to the wellbeing and work attitudes of employees aged 50+. Teaching materials concerning stereotype threat and its relationship with wellbeing and work attitudes of employees aged 50+, as well as a guide for employers on the inclusive working environment, were prepared during the project.

#### Keywords

elderly workers; wellbeing; stereotypes, workability

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Completed

#### Type of project

Cross-sectional; Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

1007

#### Age range

50 to 72 years

#### Webpage link

#### Key publications

[http://www.anc.pl/CIOPPortal WAR/file/76261/20151023105621&BP\\_4\\_2015\\_11\\_13.pdf](http://www.anc.pl/CIOPPortal%20WAR/file/76261/20151023105621&BP_4_2015_11_13.pdf) (in polish)

## Project Name

### **Supporting the learning process of the elderly people, as a determinant of their professional activity**

#### Project description

The aim of the project is to develop a model of learning conditions for older workers, taking into account the type of work performed. As part of the project, the following activities are carried out: ? Carrying out quantitative surveys among older workers in order to identify their educational and training needs, preferred methods of education, distractors in the learning process and individual and organisational factors determining their learning (about 500 people). ? Questionnaire survey among employers (approx. 200) to identify training opportunities for older workers. ? Development of a model of learning conditions for older workers (50+), depending on the type of work performed, taking into account organisational conditions (e.g. psychosocial factors at work, attitudes of the employer towards training of older people) and individual conditions (e.g. motivation, ability to work, mental health). ? Development of an e-guide on how to support the learning of older people, taking into account the type of their work. The handbook will consist of two parts: ? the first part will be a description of the determinants (favorable) and distributors (disruptive) of the learning process of older workers. ? part two will be practical guidelines and methods for the organisation of targeted training for older workers performing physical, mental and mixed work.

#### Keywords

learning needs; qualification; workers 50+; employers; education

#### Contact

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#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Retrospective (cohort);

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General working population;

#### Number of participants

540

#### Age range

50 to 76 years

#### Webpage link

#### Key publications

## Project Name

### **Determining the effect of older people's physical capability to maintain balance**

#### Project description

The aim of the project is to work out the correlations between physical capabilities of the described parameters such as angular ranges of motion in joints, forces and moments of force in selected joints of limbs, feet force on the pedal, selected walking parameters with particular focus on lower limbs, hand-eye coordination, ability to maintain balance, and tendency loss of balance resulting in a fall. The research investigates the physical capabilities of workers, which are important due to their willingness to lose balance and fall while walking. There are two groups of men participating in the research to achieve the objectives, both aged 60-67 years (30 people each), with similar body height and BMI: the Study population and the control group were selected on the basis of an interview on the fall during walking in the last 2 years. The project will develop a set of parameters that is most related to the tendency to fall, among those describing physical capabilities (angular ranges of motion in joints, forces and moments of force in selected joints of limbs, feet force on the pedal, selected walking parameters with particular focus on lower limbs, hand-eye coordination, ability to maintain balance). There will also be developed sets of improvement exercises affecting the maintenance of body balance and the rules of their selection with regard to the characteristics of the work performed (e.g. sedentary job). To determine the impact of the training based on the developed improvement exercise sets, dependent variables (parameters indicated as related to the tendency to fall) will be measured before and after the start and end of the one-month training (15 people). A set of exercises developed within the project will be aimed at improving older employees (60+).

#### Keywords

physical training; exercise; physical health; balance; fitness; physical training

#### Contact

Tomasz Tokarski, tomt@ciop.pl

#### Institution

Central Institute For Labour Protection - National Research Institute, Poland

#### Status of project

Ongoing

#### Type of project

Intervention - randomized;

#### Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

#### Study population

General population; General working population;

#### Number of participants

60

#### Age range

60 to 67 years

#### Webpage link

#### Key publications

**Studies from Instituto Nacional de Seguridad y Salud en el Trabajo, Spain**

Project Name

**PSICOSOCIOLOGÍA Y ENVEJECIMIENTO: PROPUESTAS DE INTERVENCIÓN  
(enACTIVO)**

Project description

Missing abstract

Keywords

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Institution

Instituto Nacional de Seguridad y Salud en el Trabajo (INSST)

Status of project

Completed

Type of project

Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General working population;

Number of participants

120

Age range

. to . years

Webpage link

Key publications

Project Name

**GESTIÓN DE LA EDAD: ESTRATEGIAS DE INTERVENCIÓN**

Project description

**OBJETIVOS** 1.Sensibilizar sobre la necesidad de incorporar la variable edad en la gestión de la prevención de riesgos laborales en las organizaciones. 2.Recopilar evidencias sobre la relación entre las condiciones de trabajo y el mantenimiento en activo de los colectivos de más edad. 3.Plantear estrategias para el mantenimiento de la capacidad de trabajo de los trabajadores de más edad a través de la intervención en las condiciones de trabajo. 4.Proponer medidas organizativas y psicosociales que permitan la adecuación y adaptación de los puestos de trabajo de mayores atendiendo a la variabilidad interindividual. 5.Difundir estrategias, recomendaciones y buenas prácticas para la gestión del envejecimiento desde la seguridad y salud. 6.Luchar contra la discriminación laboral por razón de la edad desde la prevención de riesgos laborales. 7.Contribuir a mejorar la motivación y el compromiso de los trabajadores de edad. 8.Combatir prejuicios y estereotipos sobre la valía de los trabajadores seniors y su contribución a los objetivos empresariales y a la sociedad. **MATERIAL Y MÉTODOS** 1.Revisión de legislación y directrices tanto nacionales como europeas en las que sustentan el proyecto 2.Revisión bibliográfica 3.Búsqueda a través de buscadores web de documentación, libros, monografías, artículos e investigaciones 4.Desarrollo de material didáctico para actividades formativas en la programación anual del INSST 5.Elaboración de un cuestionario de diagnóstico 6.Asesoramiento técnico a través de consultas telefónicas y presenciales 7.Divulgación en Jornadas Técnicas y Congresos nacionales e internacionales 8.Difusión internacional del proyecto: Presentación en PEROSH de la línea de trabajo (Varsovia) **PROPUESTAS DE ACCIÓN. RECOMENDACIONES** Las acciones a nivel de gestión de la edad requieren actuaciones fundamentalmente a 3 niveles: 1.Nivel de reglamentación, normativa y convenios colectivos 2.Nivel empresarial 3.Nivel individual 4.Nivel social

Keywords

envejecimiento, factores de riesgo psicosocial, condiciones psicosociales, condiciones organizativas.

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Institution

Instituto Nacional de Seguridad y Salud en el Trabajo (INSST)

Status of project

Ongoing

Type of project

Ecological / natural experiment /quasi-experimental (eg. legislation changes, media campaign);

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General working population;

Number of participants

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Age range

. to . years

Webpage link

Key publications

[http://www.insht.es/InshtWeb/Contenidos/Documentacion/PUBLICACIONES%20PERIODICAS/Rev\\_INSHT/2015/84/sst\\_84\\_enlaces.pdf](http://www.insht.es/InshtWeb/Contenidos/Documentacion/PUBLICACIONES%20PERIODICAS/Rev_INSHT/2015/84/sst_84_enlaces.pdf)

[http://www.insht.es/InshtWeb/Contenidos/Documentacion/PUBLICACIONES%20PERIODICAS/Rev\\_INSHT/2016/SST\\_88.pdf](http://www.insht.es/InshtWeb/Contenidos/Documentacion/PUBLICACIONES%20PERIODICAS/Rev_INSHT/2016/SST_88.pdf)

[http://www.oect.es/Observatorio/5%20Estudios%20tecnicos/Otros%20estudios%20tecnicos/Publicado/Ficheros/INFORME%20sobre%20la%20edad%20\(INSHT%202013\).pdf](http://www.oect.es/Observatorio/5%20Estudios%20tecnicos/Otros%20estudios%20tecnicos/Publicado/Ficheros/INFORME%20sobre%20la%20edad%20(INSHT%202013).pdf)

<http://www.icasv-bilbao.com/images/jornadas/2018/Indice%20y%20Presentaciones%20libro%20Envejecimiento.pdf>

**Studies from Health and Safety Executive, United Kingdom**

Project Name

**Extending Working Lives**

Project description

A scoping study to identify the focus for HSE's work on managing health and safety risks from extended working lives. Objectives To produce a list of clear, relevant, answerable priority research questions for HSE to use in order to gather evidence to understand the risks from extended working lives; To identify the value to HSE of answering the questions and obtaining the evidence, by assessing each research question against existing HSE prioritisation criteria; To consult with HSE stakeholders, industry, scientific institutions, academia and others to inform and refine the questions; To produce brief project outlines, including aim, objectives and methods; and setting out what new knowledge the projects will produce and how it will contribute to HSE's strategies and plans; To carry out a brief scoping review to map knowledge about the risks of extended working lives in other countries that have always had an older workforce;

Keywords

Scoping study; extended working lives

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Institution

Health and Safety Executive

Status of project

Ongoing

Type of project

programme of work being developed / scoped at present

Data source

Survey/questionnaire; Qualitative data (eg focus groups, interviews); Cognitive tests

Study population

General working population; Specific occupation(s); to be agreed

Number of participants

.

Age range

. to . years

Webpage link

not available yet

Key publications