



National Report: Finland

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Introduction: National background¹

Demographic factors

At the end of 2013, the total population of Finland was 5.4 million persons. Of these, 64% were in the age group of 15 to 64 years, and every fifth had turned 65. As a result of the ageing of the baby-boomers, the population of Finland is rapidly going grey. By 2060, the share of elderly (those 65 or more) is estimated to rise to almost 30%. In turn, the share of children under 15 years of age is shrinking, and is predicted to be around 15% in 2060. According to official population projection of Statistics Finland, the total population will be about 6.2 million persons. Population is growing mainly due to immigration. ⁽¹⁾

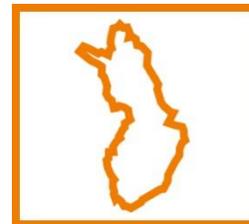
Every generation is living longer than the previous one. At the moment, the life expectancy of a new-born male is 78 years and the respective figure for females is 84 years. By 2050, the life expectancy of new-born male is expected to rise to almost 86 years and that of new-born female to almost 90 years. For 65 year old male this means an increase of additional years from 18 to 22, and for 65 year old female from 21 to 26 years.

Employment figures

There are around 2.5 million employed persons in Finland. According to Statistics Finland's Labour Force Surveys (LFS; http://www.stat.fi/til/tyti/index_en.html) the employment rate of those in the age range 15 to 64 years was 68.5 in 2013. The employment rate of men is a bit higher than that of women. There is a large variation between different age groups.

Highest employment rates, slightly over 80%, are in the age group of 35 to 54 years. Those between 25 and 34 years have employment rate around 75%. The respective figure for those between 15 to 24 years is 40%. Especially employment rate of those in the age group 55-64 years has grown during the 2000s, and currently 60% of those in this age group are employed. Finally, one in ten of those between 65 and 74 years are employed. The number of employed persons in age group of 60 – 64 years has almost doubled during the 2000s. The growth of those 65 or more has been even stronger; their amount has tripled. Due to large number of elderly, at the moment, every third employed person has reached the age of 50 years.

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One reason for the high rate of unemployment for elderly workers is in their educational status. In 2000 about half of the people at age 55 to 64 years had only the lowest education ⁽²⁾(Health 2000 p. 28); in 2011 the proportion was one third (Health 2011, p. 32) ⁽³⁾

Employment policies and their changes

In 2005, Finland experienced its largest pension reform ever. One central change was the abolishment of the general retirement age of 65 years and the introduction of the flexible retirement age, allowing employees to retire at their own choice between the ages of 63 and 68. At the same time, the early old-age retirement age rose from 60 to 62 years, but this retirement route has been completely abolished later for those born 1952 or later. In addition, the opportunities to retire early through various early retirement routes were restricted considerably. The individual early retirement scheme, which was a sub-type of disability pension, was abolished in 2005, and unemployment pension was removed from those born 1950 and after that.

Pension accrual rates were changed to be age-dependent in a way that strives more visibly than before to encourage employees approaching retirement age to continue working (accrual rate equals 1.5% between the age of 18 to 53, 1.9% between 53 and 62 years and 4.5% between 63 and 68 years). Working while drawing pension also accrues new pension (accrual rate is 1.5%). The actuarial assumptions of pensions were clarified by basing the calculation of pensions on annual earnings rather than on employment relationships. The life expectancy coefficient was also introduced in order to reduce monthly pensions in line with the growing life expectancy. The coefficient is defined for every cohort at the age of 62 years.

Thus, currently there are basically two main routes to old-age pension: directly from work (either from full time work or part time work), and through disability pension. The number of persons retiring directly from work on old-age pension has increased throughout the 2000s, and old-age pension has become the main route to retirement. Due to introduction of flexible old-age retirement age, the commencement rate of those at 63 years has grown from under 30% to 40%, and that of those at 64 years from 15% to 40%. In general, people tend to retire at age 63; every second person retiring on old-age pension retires at age 63. On the other hand, prior to the reform seven out of ten retired in the age group of 65 years. After the reform, their commencement rate has decreased to 50%.

Only a decade ago, the majority of persons transferred to old-age pension from a disability or unemployment pension. Even though unemployment pension has been abolished, unemployment is still quite important route to old-age pension, in particular for those in manual occupations. The number of those retiring to disability pension has been shrinking. The commencement rate of disability pension has decreased especially among those over 60 years of age. In fact, after 2005 those over 63 years of age haven't had a change to apply for disability pension. However, the percentage share of the regular disability pensions has remained quite constant.

Labour market for older workers

Due to the large number of those at 55 or older, one in four of all unemployed persons belongs to age group 55 – 64 years. The respective figure for those between 45 and 54 years is one in five. Moreover, long term unemployment is a severe problem among elderly. For example, in 2013, 70% of those being unemployed at 55 or more were unemployed already one year earlier.



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Retirement figures and trends

In general, during 2000s, the share of persons retiring on old-age pension has grown from one third to two thirds of all new retirees. If we only concentrate on employees (not self-employed persons), around half of them transfers directly from work to old-age pension. According to statistics, almost one in four of those transferring from work to old-age pension was in part-time pension before that. Currently, part-time pension is available from the age 60 upwards, and earnings have to be 35-70% of the prior earnings. For those born after 1954, the age limit for part-time pension is 61 years. The employer does not have to approve part-time pensions, but majority of employers indicate that part-time pension arrangements for elderly are possible ⁽⁴⁾.

Political constellations

In Finland the role of trade unions and employers' organizations has been important in the work related political and legislative negotiations and decisions. In 2014 the central labour market organisations reached an agreement on the proposal for amendments to the earning-related pension scheme. The objective of the pension reform, which will come into force at the beginning of 2017, is to extend working life and reduce the sustainability gap of public finances. The earliest eligibility age for old-age pension will be raised by 3 months per birth-year cohort until it is 65 years. The upper age limit for old-age pension will be five years higher than the earliest eligibility age. Also the accrual rates of the earnings-related pension will change as well as the rules for partial early old-age retirement.

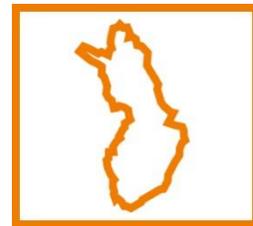
Methods

Search of data

Plenty of research on employment participation of older workers in Finland has been published in scientific journals in English. In addition, large number of research that has been done in the universities and other institutions are published only in Finnish and partly indexed into national publication databases. Systematic searches were performed in five national databases (ARTO, Melinda, Doria, HELDA, Theseus). Search terms were several combinations of Finnish words corresponding to "age / ageing", "staying at work / participation to work / return to work", "retiring" / "work ability". In addition, websites of five institutions known doing relevant research were scanned for potential reports (ETK, KEVA, Kela, STM, Kuntoutussäätiö). Additionally, the authors known to publish international reports were scanned in PubMed by the name of the principal authors.

The systematic searches were appended by the relevant reports known by the authors of this document. Also the reference lists of literature reviews in most relevant reports were scanned for additional original reports.

These searches produced about 300 potential reports that were further screened out by abstracts to concentrate on the most relevant reports. The final set covers only the reports published since year 2000.



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Most important data sources

In Finland several national studies have collected data relevant to this project. In many of them the base-line data has been combined to the data of several registers (e.g. registers of sick-leaves, pensions, medications, and mortality).

Several institutions regularly collect and analyse data related to the work participation of older workers, e.g.

- *Statistics Finland* is the only Finnish public authority collecting statistics for several purposes. It performs surveys and several of them have included questions related to this project.
- *Finnish Centre for Pensions* has register data on all pensions in Finland. It also performs surveys on related issues.
- *Kela* (Social Insurance Institution) has register data on sick-leaves, pensions, and health (medication for chronic diseases). It also performs surveys and research.
- *Keva* handles the pension matters of employees of the public sector. It makes research as well.
- *Finnish Institute of Occupational Health* has performed *Finnish national Work and Health survey* interviews for presentative samples of the working population every 3 years since 1997 (samples about 3,000).

There are also several cohort studies that have been linked to several registers in the follow-up, e.g.

- *Finnish Public Sector Study* has made repeated surveys among workers of 10 cities and 6 hospital districts every three years since 1997 (population currently over 150,000 workers).
- *Health 2000* survey made interviews on a population sample of almost 10,000 Finns and health examinations were performed for 8,000 people. In 2011 the study was partly repeated.
- *Helsinki Health study* (HHS) is a cohort study among workers in Helsinki City. The baseline surveys were done in 2000-2002 among workers aged 40 to 60 years (N=8960) and repeated in 2007 and 2012.
- *Health and Social Support* (HeSSup) study cohort has a population sample representative of the Finnish population of the four age groups (20–24, 30–34, 40–44, and 50–54 years) at baseline in 1998, a total of 10,628 men and 15,267 women.
- *Finnish longitudinal study of municipal employees (FLAME)* targeted 7,344 individuals aged 44–58 years at baseline in 1981. Follow-up data were collected in 1985, 1992, 1997 and 2009.
- *Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study* was designed to study risk factors for cardio-vascular diseases. At baseline between 1984 and 1989, a random sample of men living in the Kuopio city and neighbouring rural communities were enrolled (N=2,682).
- *Finnish Twin Cohort* was first established in 1974 and appended later. There are a total of about 13,000 twin pairs (26,000 individuals) followed-up in several surveys and national registers.

In the projects included to this review the study design has been either cross-sectional or longitudinal (cohort) allowing interpretation on some causality. The results presented in *Findings* come mainly from these most relevant data sources.



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Qualitative studies

The number of identified qualitative studies was about one tenth of the quantitative ones. They have mostly included interviews of small groups or open questions in the surveys. The interviewed groups have included representatives of the workers and employers. Servants on the public site responsible on the fulfillment of pension and rehabilitation processes have also been interviewed. The findings help to understand individual aspects behind the responses to the formal questions in the quantitative studies. The results of the selected qualitative studies are reported by domains, if suitable for the approach of each selected study. Two doctoral dissertations report issues that are not easy to put into the framework of the domains. Irni's study approach is theoretical based on research of social sciences and gender research, and the empirical evidence is gathered from interviews, scientific literature, and other documentation ⁽⁵⁾. Dufva has analyzed the political and administrative documents describing the programs aimed to prolong carriers of older workers. Survey on health care sector appends the data ⁽⁶⁾.

Findings

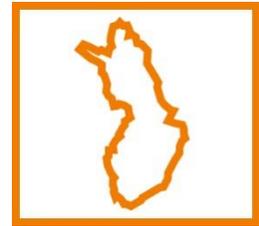
Labour market

Many empirical studies using register and survey data deal with the connection between labour market and retirement. According to results, business cycle is of importance; adverse changes in the labour market have advanced early retirement ⁽⁷⁾. Moreover, a higher regional unemployment rate increases the likelihood of old-age and disability retirement, as well as personal unemployment ⁽⁸⁻¹⁰⁾.

Sectorial and occupational differences exist. Especially those working in manufacturing and construction tend to retire early ^{(11) (12)}. Also the incidence of unemployment is higher in these sectors ⁽¹²⁾. Part of the phenomenon derives from the age structure of persons working in these sectors. Employers' willingness to recruit older workers to a greater extent than nowadays appears to be quite modest. Instead, self-employed persons retire later than others ^(9; 13-14).

There is clear socio-economic gradient in labour market behaviour. Manual workers exit labour market at younger age than upper white collar workers, but they start their careers earlier. Among men the length of working career does not differ much between these groups. Women have shorter working careers than men. In manual occupations the working career of women is about 2 years shorter than among other female workers. ⁽¹³⁾

When it comes to disability pension applicants and their labour market status, the length of working career matters. Unemployment rate has been lower among the older applicants with a long working career than among the younger ones ⁽¹⁵⁻¹⁶⁾. Generally, less than half of the workers applying disability pension have been constantly working during the 5 year period before the application. On average, workers over 55 years have been working 3.5 years during the past 5 years prior disability pension. ⁽¹⁷⁾



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Legislative measures and their implementation

Pension reform

Pension reform in 2005 introduced flexible old-age retirement age between 63 and 68 years instead of previous fixed retirement age of 65 years. This increased retirement propensity of 63 and 64 year old persons considerably. As a result, average old-age retirement age decreased somewhat. ⁽¹⁰⁾

At the same time, eligibility for several early retirement routes were tightened. Research shows that application of higher age limits or abolition of certain early retirement routes postpone retirement and increase employment among elderly. ^(8; 10; 18-19)

Numerous systems and rules regulate the support of disabled persons at work, return to work after absenteeism, and disability pension benefits. There is no single path to the pension or back to work but different institutions and actors make decisions according to the mandate they own. There are problems in cooperation and coordination of this complex system and therefore the decisions are not always optimal for the worker or the society as a whole. Due to the problems and delays in the processes a disabled worker can end up to applying pension even though s/he could be returned to work by suitable means. ⁽²⁰⁾

The rejection rate of disability pensions has been slightly lower than the mean among people with older age, medical diagnosis of cardiovascular or malignant diseases, high level education, and being continuously employed in the time of application. ⁽²¹⁾

Partial disability pension

Most of the people on partial pension had applied especially this type of pension. Some had applied the full pension but the partial pension was granted because the reduction of work ability was not regarded to be sufficient for the full pension. ⁽²²⁾

Partial pension became more common especially among the people older than 50 years. Partial pension seems to have replaced the option for early pension for older workers that was abolished in the pension reform 2005. ⁽²³⁾

Working and pension

In connection with the discussion on the prolonging of working careers, the issue of gainful employment among persons on disability pension has been brought up. Recipients of disability pension may engage in paid work but there are limits for the allowable earnings. In the 2000s, the share of partial disability pensions in all disability pensions was increased especially for those 50 and over ⁽²³⁾.

Persons retiring on a part-time pension between 2005-2009 have had careers equal length or longer than their peers ⁽²⁴⁾. At the end of 2012, 77% of all people on partial pension were at work and 75% of those were over 50 years. ⁽²⁵⁾

Before the 2005 reform, working on pension was more common among those who had applied the partial pension than among those who had applied the full pension but the partial pension was granted because the reduction of work ability was not regarded to be sufficient for the full pension. ⁽²²⁾



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One fifth of all disability pensioners reported that the earnings limits had restrained their working. One fourth of those on the partial pension reported that they had increased working, if the earning limits had been different. ⁽²⁶⁾

Return to work after temporary disability pension

The results of two register-based follow-up studies indicate that only a small number of those awarded a temporary disability pension actually return to work especially among the older pensioners. For the majority, the temporary pension will be transferred into a permanent one. In the age group 55-62, for example, the return-to-work rate after temporary disability pension was around 15%. Job security and rehabilitation during the benefit period were strongly associated with a later work resumption. ⁽²⁷⁻²⁸⁾

Reforms in sick leave

Partial sick-leave was introduced in Finland in 2007 to make workers return to work easier after long term sickness absence (after two months). A register based study showed that workers who had used this option were later more often on partial disability pension while the workers who did not have been on partial sick-leave were more often in full disability pension. ⁽²⁹⁾

The laws on sick-leaves were altered in 2012 to support the early detection and start of rehabilitation processes in prolonged sickness absenteeism. The employer has to report to the occupational health, if the worker's number of accumulated days due the sickness absenteeism is 30 days. At 90 days latest the worker has to supply to Social Insurance Institution a medical certificate of an occupational health specialist, in which the plans for return to work have been described. A research on these certificates after eight months from the start of this rule showed that the implementation was modest and the occupational health specialists did not thoroughly follow the new system ⁽³⁰⁾.

In the legislation the concept "disabled worker" has been changed to "partially capable worker" to stress the remained capability for work. The concept of "fair" is also included in the legislation to consider the socio-economic situation of the person. It shall be noted that the interpretation of "fair" is highly dependent on the general socioeconomic and political state of the country and can change over time.

Financial factors

Financial factors have been studied as determinants for retiring in register data and in surveys as predictors for willingness to stay at work or retire.

Larger growth in social security wealth has had a positive effect on staying at work. Higher level of social security wealth increased the likelihood of retirement. ^(10; 31) Those with highest income are more likely to transfer to old-age pension directly from work. Those with lower income mainly exit from the labour force through other channels (disability or unemployment). ⁽⁹⁾

Income has twofold effect on retirement age. Those with higher income tend either retire earlier than others or postpone retirement to older age. ^(7; 13) Accelerated accrual rate and receiving higher pension motivate postponing retirement for most employees – but not all ⁽⁷⁾.

Good knowledge about the magnitude of the pension benefit as well as the self-estimated good income level during retirement reduced the willingness to stay at work, although these findings were



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not uniform in all workers ⁽³²⁾. In 2008, of all employees those with the lowest income wanted to continue at work more often than those in the group with the highest income ⁽³³⁾. However, within the same occupation and socio-economic class (dentists) the economic situation insufficient to personal needs predicted willingness to stay at work longer ⁽³⁴⁾.

Insurance through private pension schemes or having occupational pension provision arranged by the employer is related to early retirement ^(7; 32; 35-36).

In a qualitative analysis of the discussions in stakeholder groups the role of financial factors related to older workers was seen as two-fold: Older workers are a good investment for the workplace due to their knowhow and skills. At the same time they can be an economic risk for productivity, they may be slower, and their knowhow and skills may be outdated. Their reduced health may also increase the risks for additional costs for the company due to sick-leaves and disability pensions. ⁽³⁷⁾

Social position

Social position is highly correlated with the education, health related behaviour and health, and the income level that is related to the occupation as well.

Retirement age varies according to socioeconomic status. Highly educated stay at work longer than others ^(8; 12; 38). They also are more likely to continue working after old-age retirement ⁽³⁹⁾. Upper white collar workers have the highest incidence (70%) of retiring directly from work and only one in ten retires through disability pension. The respective figures for manual workers are around 40 and 25 percent. Among manual workers 30% have been unemployed prior old-age pension. This is twice as high as among upper white collar workers. ⁽¹³⁾

Ill-health and physical working conditions contribute to the socioeconomic differences in disability retirement. In several studies key socioeconomic indicators (education, occupational social class, and income) have all been correlated with disability retirement, more among the younger than older ones. Among manual workers the most common retirement diagnoses included musculoskeletal diseases (MSD), psychoactive substance use, or cardiovascular diseases. MSDs were the largest group and in the age group 54–64 years, the total excess of them was 54% among male manual workers and 76% among female manual workers (Health2000) ⁽⁴⁰⁾. In the Helsinki Health Study the risk of disability retirement was higher among those in lower social classes for all causes. Physical workload and hazardous exposures were important mediators but also the low job control. ⁽⁴¹⁾

In a representative sample of the population in working age (260,000 Finns), income's effect to the disability retirement was smaller than that of education or social class, the effect of social class was explained by education, and the social class and education explained mainly the income. ⁽⁴²⁾

Depression has become a major cause for disability pensions especially among younger workers. Among older workers disability pension due to depression is more common in white collar experts than among other occupations and the pension salary is higher, respectively. ⁽⁴³⁻⁴⁴⁾.

In the public sector, the amount of sick leaves varies by work field. The greatest rate has been in cleaning, health care, and food services. Also the return to work after sick leave varied by field and was faster in occupations belonging to higher socioeconomic class. ⁽⁴⁵⁾

Low education has also been noted to be associated with lower work ability. (Health 2000)⁽⁴⁶⁾



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In a qualitative analysis of interviews among 98 women in healthcare and trade, the fears of social discrimination due to age and gender were clearly recognised ⁽⁴⁷⁾.

Domestic factors

Domestic factors (e.g. marital status, number of children) have been analysed mostly by looking the influence of background factors on retirement in cohort studies. In several surveys the intentions to retire or to stay at work have been explained with more specific questions on domestic factors.

Those who live on their own are more willing to continue working than those cohabiting with their spouse ^(7; 33; 48). Married workers with lower education especially considered leaving the work before the old age pension ⁽⁴⁹⁾. Before the pension reform of 2005, women with a family had partial pension more often than the others ⁽¹²⁾. Early retirement was also more common among those who's spouse was on pension ⁽⁵⁰⁾ and later retirement has been preferred by those whose spouse was working ^(7; 12). Working old-age pensioners have had working spouses more often than those who did not work ⁽³⁹⁾.

The experience of neglecting the family and household due to the work was highly associated with the intentions to retire earlier ⁽⁵¹⁾. In addition to intentions to retire the experienced conflict between the duties at work and private life increased the risk of ending up to disability pension ⁽⁵²⁾.

Factors related to family issues have been of somewhat greater importance to well-educated persons and to women. Still the family situation motivates retirement to lesser extent than the issues of working conditions or health ⁽⁵³⁾.

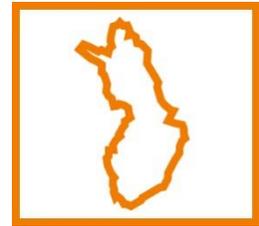
Work organization and management

Organizational issues have mostly been studied with questions of workers' experiences. The worse the workers have reported the atmosphere and functionality of their working unit, the more often they have stated intentions for early retirement. ⁽⁵⁴⁻⁵⁶⁾

Employer's support to continue work prolongs working careers. Support offered varies according to sector, industry and workplace size ⁽⁵³⁾. Intentions to retire increased if the employer's support was experienced to be low ^(32; 57). On the municipal sector the workers' willingness to work longer increased, if the employers had positive attitudes to keep older workers at work and related concrete actions were put into practice ⁽⁴⁹⁾.

Employees have reported several factors motivating them to stay longer at work: worker's confidence on the continuation of work, reduction of the excessive workload and hurry, flexible working hours, possibility to influence on own work ^(56; 58), better management and leadership, possibilities for rehabilitation, and improvements in the working conditions ^(50; 59-60). Vice versa, opposite conditions have increased the intentions to retire earlier ^(33; 57). Changing the worker's tasks or her/his position in the organization by an unilateral decision of the employer ⁽⁵⁵⁾ and the changes in tasks so that their performance is more difficult also reduced the intentions to stay at work ^(57; 61).

Based on the Finnish Public Sector Study, good possibilities to influence working hours (often labelled as high work time autonomy or work time control) predicted better subjective health and sleep, lower sickness absence, less work disability due to musculoskeletal and mental disorders, and extended employment ⁽⁶²⁻⁶⁵⁾. In the most recent study, the association of several organizational,



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work, and health factors was studied with respect to extended employment (defined as over 6 months beyond the pensionable age as defined from national health and pension registries). Possibilities to influence working hours was the strongest independent factor (OR 2.31) for extended employment in addition to e.g. diagnostic mental disorder (OR 1.25) and psychological distress (OR 1.68)⁽⁶⁶⁾. In other Finnish cohorts working more than 60 hours a week was related to later disability pensions⁽⁶⁷⁾, but shift work did not⁽⁶⁸⁾. Women, blue-collar and shift workers tend to have less possibilities to influence their working hours compared to men, white-collar and day workers⁽⁶⁹⁻⁷⁰⁾. Although possibilities to influence working hours thus predict longer work careers in epidemiological studies, we do not know whether work-time control can be systematically improved.

Perceived social support was associated with the self-evaluated work ability (Health 2000)⁽⁷¹⁾. A conflict between the control over own work and its demands increased the stress (Public Sector Study)⁽⁷²⁾.

Better salary and rewarding as well as the possibilities to advance in one's career until the older age motivate to stay longer at work^(56; 58; 73).

A valid employment contract at the start of the temporary disability pension and during the rehabilitation increased the rate to return to work⁽²⁷⁻²⁸⁾.

Employers are not very keen on employing ageing workers to a greater extent than they already do. This mainly concerns those who have reached the age of 63 years or have retired on old-age pension. Employers' attitudes towards hiring the ageing are more positive in the public sector and in larger workplaces. There are also differences between fields of business. The current lower retirement age limit of 63 years is generally accepted by employees and employers. A majority of employers still kept the upper age limit of 68 years as too high.⁽⁵³⁾

The workers' experience on good management and leadership increased their intentions to stay at work^(54; 56). Vice versa, disappointment on the management has been of importance for intentions to leave^(55; 57).

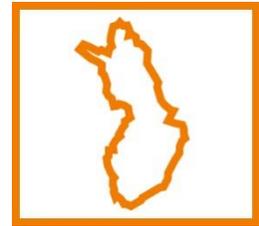
In the metal industry and trade, the organizations with the best productivity had the most committed workers who also better noticed the management practices resulting to good commitment. The workers' work ability was also better and they had less intentions for early retirement than those in the organizations with an average productivity.⁽⁷⁴⁾ On the health care sector, the better the workers knew the goals of the organization and the working unit, the more they were motivated to stay at work in the hypothetical situation that they would get sufficient earnings without working⁽⁵⁶⁾. Worker's instrumental relation to work and avoiding of certain tasks seem to reduce the willingness to stay longer at work^(58; 73; 75).

The size of the organization seemed to matter with intentions to retire: in the smaller ones the workers had more often intentions retire later⁽³²⁻³³⁾.

Interventions

Effects of the natural and intended changes in the organizations have been monitored in some cohort and case studies.

The rate of sick-leaves, disability pensions and mortality as well as the use of psychotropic drugs increased after organizational downsizing on the public sector. Downsizing of organizational



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resources also was associated with increased hospital infections and decreased educational results at schools. ⁽⁷²⁾

Perceived organizational justice has predicted self-reported health, psychological stress, and sick-leaves. Organizational justice seems to protect from anxiety and depression. The perception of justice improved after development, if the changes had been rated to be beneficial. (Public Sector Study) ⁽⁷²⁾

In case studies the organizational development has been reported to be successful. Case-management and enhanced co-operation between the different actors in the work organization and occupational health has been successful to reduce the disability absenteeism and the results have been economically beneficial as well ⁽⁷⁶⁻⁷⁷⁾.

Qualitative studies have noted co-operation, employer's and foreman's support, and the needs for flexible and innovative solutions to help partially disabled workers to continue working ⁽⁷⁸⁻⁷⁹⁾. Analysis of documents related to welfare strategies of public employers showed that the processes have to be clarified and well informed on all levels of the organization. The follow-up of the fulfilment is important. ^(6; 80) Evaluation of an age related development program also stress the factors stated before ⁽⁸¹⁾. Continuous development projects require extra time and resources that has been seen to be a reduction of the resources for the ordinary work ⁽⁸¹⁾.

Work factors

Work factors are inherent in the assessment of work dis/ability related to work participation. Thus persons with a disease that may be worsened by the high physical loading are mostly evaluated to have poor work ability for physically loading work (e.g. those with musculoskeletal disorders). Similarly, workers with mental disorders can be evaluated to have reduced ability for work with high psychological loading.

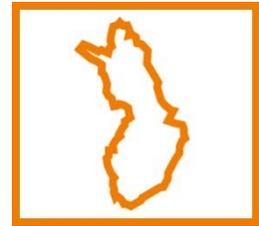
High physical work load has been shown to be the main cause for disability retirement in the past decades as the musculoskeletal diseases (MSD) (especially back diseases) were the most prevalent causes for the retirement. These findings are well conformed in the studies in 2000s (e.g. ^(68; 82-84)).

High physical workload as well as high psychological stress were associated with poor motivation to continue at work after the age 63 years (Finnish National Work and Health survey) ⁽⁸²⁾. Psychological loading has increased the willingness of early retirement in private and public sectors ^(32-33; 73), as well as the experience of exhausting and stressful work ^(57; 85).

Work and working conditions affect the retirement decision most. Time pressure at work, uncertainty regarding the future of work, changes in work tasks, inflexible working hours, mental strain and poor administration and atmosphere at work advance the decision to retire. Adopting more flexible working hours, and decreasing the pace and pressure of work postpone retirement. ⁽⁷⁾ Poor satisfaction with work increases the intentions retire early ^(61; 73; 75).

Health & health-related behaviour

Health issues have been thoroughly studied in the research on occupational health, in many population surveys, and studies using register-based data. Poor health is associated with poor work



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ability, sickness absenteeism, and disability retirement. By pension rules, poor health causing disability is a mandatory requirement for the disability pension.

The amount of sick-leaves (> 3 days) in the public sector has predicted disability pensions and mortality. The rate of sick-leaves varied according to the work sector with the highest rates among women in cleaning, meal services, and health care. The rate of sick-leaves increased in public sector until 2008 and has reduced thereafter. ⁽⁴⁵⁾

The most common medical causes for prolonged sick-leaves and disability retirement are musculoskeletal diseases (MSDs) and mental disorders. Since 1980ees the profile of medical causes of the disability pensions has changed: the proportion of mental disorders has increased and that of MSDs decreased. The number of new disability pensions due to depression increased until year 2006. At the same time the prevalence of depression in the statistics of health care did not seem to rise ⁽⁴³⁾. In the age group of 55 to 64 MSDs count for 45% of the causes of new disability pensions, and the next largest group, mental disorders, count for 16%. Several studies show that multiple diseases have further increased the risk of work disability ⁽⁸⁶⁾. Both mental and musculoskeletal diseases doubled the risk of disability retirement; the risk was fourfold for those with both of these disorders ⁽⁸⁷⁾.

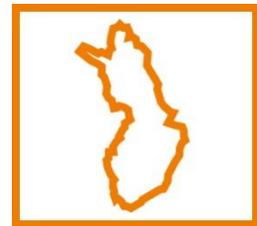
In a follow-up study self-rated ill health was a stronger predictor of disability retirement than working conditions ⁽⁸⁸⁾. Poor mental health, chronic diseases, poor physical performance, and occupational burnout, for example, have been shown to predict disability retirement ^(52; 89-90). Moreover, chronic pain ⁽⁹¹⁾ and multisite pain ⁽⁹²⁾ predicted the risk of disability retirement, even when the chronic diseases were counted for in the analysis.

Long sick leaves have increased transitions out of work and into unemployment, disability retirement and old-age retirement ⁽⁹⁻¹⁰⁾. According to a register-based study, in the process of work disability, the signs of health problems appear early. Already 10 years before the disability pension, the share of sickness allowance recipients and the number of sickness allowance days were larger for persons retiring on a full disability pension than for a control group of the same age ⁽¹⁶⁾.

Studies on return-to-work suggest that the successfulness of the work resumption varies according to the medical cause of the work disability. Return to work after mental disorders in particular appears to be difficult. It has been found, for example, that return to work was more probable after temporary disability pension due to injury and musculoskeletal diseases and less probable after temporary disability pension due to mental disorders ⁽²⁸⁾. Furthermore, if the application of a disability pension was rejected, one third of those aged 50–59 years returned to work. Return to work was more common among those with a musculoskeletal disease than among those with a mental disorder ⁽¹⁵⁾. Public Sector Study showed that optimism shortened the time for return to work after depression while pessimism prolonged the sick leave ⁽⁸⁶⁾.

Various health-related behaviours affect health, work ability and employment participation. According to the Finnish National Work and Health Survey workers with healthy lifestyle were most motivated to continue at work ⁽⁸²⁾, and among the public sector employees healthy living behaviours improved work ability ⁽⁸⁶⁾. Interest in various free time activities acted as buffer against early exit from working life. ^(50; 93)

Numerous studies have found risk behaviours like smoking, abuse of alcohol and drugs, inactivity, and unhealthy eating (resulting to obesity) to be associated with poor health and work disability. Obesity, physical inactivity, and heavy alcohol drinking all have predicted disability retirement



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(Health and Social Support study) ⁽⁸⁵⁾. However, among municipal employees heavy average or frequent drinking was not associated with all-cause disability retirement, but increased the risk of disability retirement due to mental disorders ⁽⁹⁴⁾. In the same cohort, obesity was associated with all-cause disability retirement ⁽⁹⁵⁾.

Sleep is a more recent addition to the indicators of health behaviours. Poor sleep has been shown to be a strong predictor of disability pensions ^(86; 96-98). Not only poor sleep quality at one point of time, but also having a stable pattern of sleeping poorly early were significant predictors of disability retirement ⁽⁹⁹⁾.

Social capital (trust, reciprocity) improved health and wellbeing at work and reduced the risk for sickness and mortality. Health behaviour (smoking, drinking, obesity, sedentary life style) may be the mediator between the health outcomes and social capital. Heavy work and heavy work with poor social capital have increased the risk of diseases and depression. ⁽⁷²⁾

Weak sense of coherence was associated with a higher incidence of disability pension ⁽¹⁰⁰⁾. Unhealthy workers (with at least one sickness) with low sense of coherence and low education reported most intentions to retire early ⁽¹⁰¹⁾.

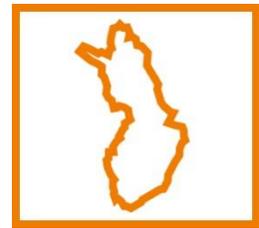
Work ability

The concept of "work ability" is ambiguous. In the social security compensation system it has been defined by disabilities conflicting with the capacity to perform at work. The disability has been to be defined by medical conditions and the sick-leave certificates have to be accepted by the social insurance system. Disability pensions have been granted by similar rules after long-term sick-leave (usually about 12 months). In the workers compensation system the disability is reflected against the workers specific occupation. In the general social security the reference is not specific to the worker's occupation. This makes the evaluation of the work ability of unemployed persons difficult. Actually, in 2000s there have been more than ten definitions for work ability /work-disability in the rules for pensions in Finland.

In 1980ees research projects in the Finnish Institute of Occupational Health were started to develop a new measure for work ability. The conceptual background of the work ability had been based on the stress-strain concept and balance model, where the human resources are in balance with work demands in a healthy way ⁽¹⁰²⁻¹⁰³⁾. The "work ability index" was developed and used in research to define work ability. Later, the models have been widened from health – work relationships to cover factors that determine the multiple attributes of work ability; e.g. competence, values, family, economics, participation, etc. ⁽¹⁰⁴⁾. "Work ability house" has been a metaphor to describe the different items ⁽¹⁰⁵⁾.

In research, work ability has been measured by pensions or sick leaves with questions or register data, or in the surveys with the work ability index or a single question of the index (current work ability compared with the lifetime best). Self-rated and register-based indicators of work ability appear to have a quite robust association. For example, studies using both survey and register data have found that poor self-rated work ability strongly predicts disability retirement ^(49; 106).

Among the most comprehensive studies on the work ability of the Finnish population are two national health surveys, the Health 2000 and 2011 Studies ^(3; 107). According to these surveys, in the older age groups the self-perceived work ability was poorer than that of younger persons. However,



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even among the old-age pensioners good work ability was not unusual. In 2011 more than half of those aged 65 to 74 were with full work ability and for the 55-64 year olds the corresponding figure was 70 percent. During the last decade, work ability of the Finnish population has improved. Between 2000 and 2011 this improvement was most distinct in the age group of 55 to 74. ⁽¹⁰⁷⁻¹⁰⁹⁾

Poor work ability has been strongly associated with poor health and chronic illnesses. Yet, especially among persons aged 55 and older, limited work ability was prevalent even among those who considered themselves to be healthy ⁽¹⁰⁷⁾. The population surveys further confirmed the relations between work ability and many work-related factors as well as personal values and expertise ⁽¹¹⁰⁾.

Among the late-career employees, especially women aged 60 to 64 had serious problems with their work ability. Many of these older women worked in basic service occupations that were physically demanding. In general, those older employees who perceived their work ability to be poor considered taking early retirement more often than those with good work ability. ⁽¹⁰⁷⁾

In all age groups good work ability was reported more often by those who held a job and were well-educated than by those unemployed and less educated. Long-term unemployment, in particular, was associated with poor work ability. However, in late career, even a short period of unemployment increased the risk of limited work ability. ⁽¹¹¹⁾

In Health 2000 study low education was associated with lower work ability. But the association reduced, if the skills were sufficient in relation to the demands of work. ⁽¹⁰⁷⁾ Learning difficulties were also correlated with lower work ability ⁽¹¹²⁾. It may be that the oldest group of workers had been selected to manual tasks due to these difficulties because the special education was very rare in their childhood.

Positive and optimistic attitudes were associated with the evaluation of the good work ability in the future. ⁽¹⁰⁷⁾

Vocational rehabilitation

Vocational rehabilitation (VR) within the earnings related pension scheme is one of the in-work measures to enhance participation to work. Some research on VR has been performed by surveys, documents, and register data. In short term follow-up vocational rehabilitation has increased the probability participating work e.g. ^{(113) (114)}. Since year 2000 the volume of VR has tripled ⁽¹¹⁴⁾. Yet, only a small proportion of the applicants of disability pension has ever participated in vocational rehabilitation ⁽¹⁵⁻¹⁷⁾. Older employees are not as likely to receive vocational rehabilitation as the younger ones. ⁽¹¹⁴⁻¹¹⁵⁾.

Motivation

In the Finnish studies motivation has mostly been asked with intentions to retire before the statutory pension age or to work after it.

According to the Finnish National Work and Health survey in 2009, two out of three workers aged 25–64 said that they could consider working after the age of 63. This proportion had increased significantly from 2003 and 2006, especially among women, 55–59 year-olds, white-collar workers, and municipal and state workers. Health (stated by 24% of workers), financial gain, meaningful work, and flexible working hours were noted most often as reasons for considering continuing work after the age of 63. About one out of seven workers aged 45–64 said that they would continue working



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even if they won or inherited enough money to live without working. This proportion has slightly decreased since 1997. White collar workers were most motivated to continue at work and manual workers less. ⁽⁸²⁾

The intentions to retire have well predicted the realization of the retirement ^(32; 73; 116-117).

Stressful life events and pessimism have been associated with the intentions of early retirement ⁽⁵²⁾. Even though the intentions to retire were associated with life dissatisfaction, the later had an independent association with a higher risk of disability pension ⁽¹¹⁷⁾.

In addition to work conditions, retirement is affected by hobbies and a desire to have more leisure time. These are especially important for well-educated persons. ⁽⁵³⁾ Perceiving work as meaningful and having chances to influence to work increases motivation to continue at work. A shorter working career also has motivated to continue working, probably due to the low earnings on pension ⁽⁷⁾.

Many factors that have been significant when inspecting retirement intentions have appeared to be insignificant in case of actual retirement ⁽⁷⁾. Among farmers the intentions for succession did not predict realization well ⁽¹¹⁸⁾. Retirement is a long-lasting process from the first intentions to the fulfilment and therefore sensitive to changes in the worker's current life situation ⁽⁶⁾.

Motivation to work was not common among those >50 years who already got a pension and did not work: only 6% of those on partial pension and 18% on full pension expressed their interest to work. Most of them would have liked to have occasional or part-time job. ⁽²⁶⁾

In qualitative interviews personal attitudes to work were stressed among those older employees still working in physically demanding jobs ⁽¹¹⁹⁾. They also pointed the positive aspects of work like the meaningful contents of it, which were also stated to be the most important factor to stay at work also among the workers in health care and trade ⁽⁴⁷⁾. Contents analysis was done on 12 television documents on employees working at the age 62-79 to identify causes for working in old age. The detected motivators were the work itself, personal attitudes and preferences, feelings of competence and necessity, and the social relationships. ⁽¹²⁰⁾

Discussion and Conclusions

In Finland several studies using large cross-sectional and longitudinal data have investigated determinants of employment participation. Combining survey data to register data have allowed many-sided evaluation of several determinants and outcomes of retirement and labour force participation.

Plenty of the Finnish research has been reported in peer-reviewed scientific forums. In addition, national reports have been written using the same and additional data. In this project the data search focused on the national reports that are mostly published in Finnish. The literature search was done systematically in Finnish library databases on reports published since 2000. The websites of several institutions known to do this kind of research were scanned as well as the reference lists of the most comprehensive reports. The authors of this report appended the data by the relevant reports they were familiar with. Altogether more than 300 potentially relevant reports were scanned for a more detailed scrutiny. The authors of this report are experts on this field and thus it can be assumed that the central research was found.



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Due to limited resources, the reports were shared and analysed by one expert for each report, without a double check. No formal quality rating of the reports was done. Thus the findings and conclusions of each report are interpretations of individual experts.

The surveys have thoroughly investigated the well-known determinants of disability related to the individual and work factors. Motivational factors have been investigated by asking intentions for retirement and the realization of the intentions has been studied by register data.

The quantitative studies have mostly concentrated on analysing specific associations between the risk factors and outcomes by the domains of this project concept. The number of reports by qualitative methods is not great, although a growing number of them is available as case studies and academic theses. In general, Finnish research has covered all domains and in some domains multidisciplinary approach has been adopted.

The framework of the analysis was defined a priori by the domains. Sometimes it was not easy to put the findings of each singular study within a single domain. The key findings are summarized as follows.

Labour market

Effects of the labour market have been studied widely with registers and survey data. Adverse changes in the labour market have increased early retirement. Sectorial differences exist. Self-employed persons retire later than others.

Legislation and its implementation

Effects of the reforms in pension (2005) and part time sick-leave (2007) have been evaluated with register data. Higher age limits, the abolition of certain early retirement routes, and part-time sick-leave have been shown to postpone retirement and increase employment among the elderly. In contrast, lowering the age limit of old-age retirement from 65 to 63 years of age in 2005 led to an increase in retirement propensity of 63 and 64 year old persons.

Financial Factors

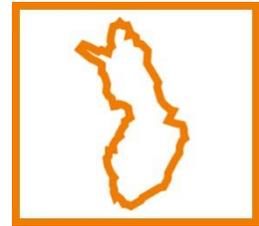
Income has been evaluated with surveys and registers. Effects are twofold: Those with higher income tend either retire earlier than others or postpone retirement to older age. Those with highest income are more likely to transition into old-age pension directly from work. Those with lower income mainly exit from the labour force through other channels (e.g. disability or unemployment benefits).

Social Position

Socioeconomic and educational differences have been thoroughly investigated in several studies. Ill-health and physical working conditions contribute to socioeconomic differences in disability retirement. Low education is associated with lower work ability.

Domestic factors

Domestic factors have been studied, especially with respect to the intention to retire. The socioeconomic situation of the family matters. Those who live on their own are more prone to



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continue working than those cohabiting with their spouse. The labour market status of the spouse is important in retirement decision-making.

Work – organizational factors

The role of organizational and psycho-social work factors has been well investigated. Perceived organizational justice, social capital and employers' support have prolonged working careers. Possibilities to control working hours has been an important factor predicting sickness absence, disability pensions and extended work careers.

Work factors

Commonly known health risk factors at work have been included into most studies. Retirement is affected more by work-related factors and work-life interaction related factors than by personal factors.

Health and health-related behaviour

Health has been included in most studies of work participation. It has been analysed based on self-reported ratings but also on register data linked to sickness leaves.

Poor self-rated health and multiple diseases increased the risk for disability pensions.

Sleep has been included to the analyses, along with the more traditional items of health behaviour, i.e. smoking, alcohol, physical activity, and overweight.

Work ability

In the legislation of disability pensions, the (non-) presence of a work-related disability is the main determinant of work ability. Plenty of research studied work with the help of the work ability index or with a single index question to find independent outcomes or predictors for retirement.

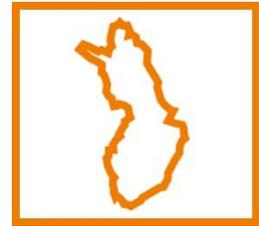
Motivational factors

Motivation has been investigated in several studies based on the intention to keep on working until the pension age or leave work earlier.

Positive and optimistic attitudes about work have been derived from a subjectively better self-evaluation of work ability and a relatively fast return to work after a depression.

Conclusions for research needs in Finland

- The research has concentrated to identify and monitor determinants of work participation and early leaving of working life. Prevention and intervention studies are scanty.
- The determinants of employment (and domains) are inter-related. System approach is needed to further estimate the strengths of these interactions to identify the most potential targets for preventive actions.
- Implementation of preventive actions should be investigated more thoroughly. For this both qualitative and quantitative evaluation is needed. Economic evaluation should be included to the suggested models to extend working careers. Even though planned comparative trials in real life are demanding and often impossible to perform, it is possible to study the effects of e.g. large-



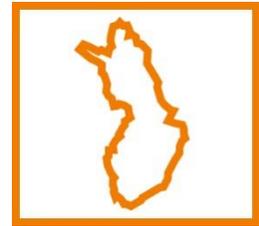
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scale organizational interventions with new statistical methods (e.g. propensity score) in the rich cohort data combined with registers. Although singular case reports cannot be generalized, it is possible to combine experiences in systematic reviews and meta-analysis of well reported case studies in the future.

- Since one of the central aims of the past and future pension reforms is prolonging of working careers, determinants of the length of working careers need special attention. Employers' attitudes towards hiring older persons are crucial in obtaining this goal. More research is needed on the ways in which employers select between competing candidates for jobs when age, race and gender differences may be significant discriminating attributes. We know very little about the effects of age on productivity. Also the processes for out of work and return to work should be investigated in more detail to identify the bottle-necks for preventive actions.
- More detailed inspection is needed on family and gender issues, as well as on the balance between the work and other life (including adjustment of working hours, part-time work, etc.) and socioeconomic differences in retirement behaviour. Longitudinal analyses and follow-ups should be done more and also with evaluations on the effects of legislative reforms.
- More research is needed about the best ways and benefits from implementing workplace accommodations. There is also need to develop tools that can help organisations and the community to make optimal decisions to promote work-related health and how to promote work ability. Valid and simple methods are needed for analysing and developing accessibility. One option is to develop databanks on good practices for accessibility and workplace accommodations.

Acknowledgement

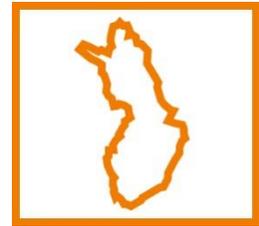
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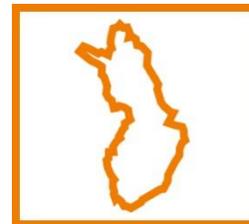
References

1. Statistics_Finland. (2012). Projection for the number of persons aged 65 or over slightly lower. from http://www.stat.fi/til/vaenn/2012/vaenn_2012_2012-09-28_tie_001_en.html.
2. Aromaa A, Koskinen S, Eds. (2004). Health and functional capacity in Finland. Baseline results of the Health 2000 health examination survey. Publications of the National Public Health Institute B12/2004. Helsinki, National Public Health Institute.
3. Koskinen S, Lundqvist A, Ristiluoma N, Eds. (2012). Terveys, toimintakyky ja hyvinvointi Suomessa 2011 Helsinki, Terveystieteiden tutkimuskeskus ja hyvinvoinnin laitos (THL).
4. Tuominen E, Tuominen K, Kahma N (2012). Joustava vanhuuseläkeikä. Työnantaja- ja työntekijäkyselyihin perustuva tutkimus joustavan eläkeiän toimivuudesta. Eläketurvakeskuksen tutkimuksia. 2. Helsinki, Eläketurvakeskus.
5. Irni S (2010). Ageing apparatuses at work: transdisciplinary negotiations of sex, age and materiality. PhD Doctoral thesis, Åbo Akademi. 273 p.
6. Dufva H (2012). Eläkkeelle siirtymisen kynnyksellä: Eläkkeellesiirtymisilmion monitasoinen tarkastelu Doctoral thesis, Itä-Suomen yliopisto. 203 p.
7. Tuominen E, Karisalmi S, Takala M, Kaliva K. (2012). How do intentions affect future retirement? A case study of the Finnish flexible old-age pension scheme. *European Journal of Social Security* 14(2): 111-31.
8. Kyyrä T. (2015). Early retirement policy in the presence of competing exit pathways: Evidence from pension reforms in Finland. *Economica* 82(325): 46-78.
9. Nivalainen S (2013). Työstä vanhuuseläkkeelle siirtyminen ja sen taustatekijät 2000-luvulla: rekisteripohjainen tarkastelu. Eläketurvakeskuksen raportteja 2. Helsinki, Eläketurvakeskus.
10. Uusitalo R, Nivalainen S. (2013). Vuoden 2005 eläkeuudistuksen vaikutus eläkkeellesiirtymisikään. Valtioneuvoston kanslian julkaisu 5/2013.
11. Lehto A-M. (2012). Eläkeikätaavoite on saavutettavissa. *Hyvinvointikatsaus*(2012 : 1): 48-55.
12. Rantala J. (2008). Varhainen eläkkeelle siirtyminen. Eläketurvakeskuksen tutkimuksia 2008:1. Eläketurvakeskus.
13. Järnefelt N, Nivalainen S, Salokangas S, Uusitalo H. (2014). Sosioekonomiset erot: työurat, eläkkeelle siirtyminen ja eläkejärjestelmä. Eläketurvakeskuksen raportteja 1/2014. Eläketurvakeskus. Helsinki.
14. Rantala J, Romppanen A. (2004). Ikääntyvien työmarkkinoilla pysyminen. Eläketurvakeskuksen raportteja 2004:35.
15. Gould R, Laaksonen M, Kivekäs J, Ropponen T, Kettunen S, Hannu T, Käppi I, Ripatti P, Rokkanen T, Turtiainen S. (2014). Työkyvyttömyyseläkettä edeltävät vaiheet: Asiakirja-aineistoon perustuva tutkimus. Eläketurvakeskuksen raportteja. 6. Eläketurvakeskus.



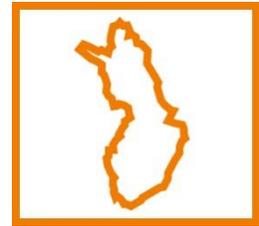
National Report: Finland

16. Laaksonen M, Blomgren J, Gould R. (2014). Työkyvyttömyyseläkkeelle siirtyneiden sairauspäiväraha-, kuntoutus- ja työttömyyshistoria: rekisteripohjainen tarkastelu. Eläketurvakeskuksen raportteja 05/2014.
17. Juopperi J, Lampi J. (2012). Työllisyys ja kuntoutus ennen työkyvyttömyyseläkepäättöstä. Eläketurvakeskuksen keskustelualoitteita.1.
18. Jauhiainen S, Rantala J. (2011). Ikääntyvien työttömyys ja työttömyysputki: katsaus viimeaikaiseen kehitykseen. Eläketurvakeskuksen raportteja.3.
19. Korkeamäki O, Kyyrä T. (2012). Institutional rules, labour demand and retirement through disability programme participation. J Popul Econ 25(2): 439-68.
20. Kuuva N (2011). Takaisin työhön vai työkyvyttömyyseläkkeelle? Työkykyä palauttavat prosessit. Eläketurvakeskuksen keskustelualoitteita. 5. Helsinki, Eläketurvakeskus.
21. Gould R, Nyman H. (2012). Työkyvyttömyyseläkepäättökset 2000–2011. Eläketurvakeskuksen keskustelualoitteita.3.
22. Gould R, Nyman H, Takala M. (2003). Osittain työkyvytön vai osittain työkykyinen? Tutkimus osatyökyvyttömyyseläkeläisten työssäolosta. Eläketurvakeskuksen raportteja. 33.
23. Gould R, Nyman H, Lampi J. (2008). Osatyökyvyttömyyseläkkeen toimivuus työeläkejärjestelmässä. Eläketurvakeskuksen keskustelualoitteita. 7.
24. Salonen J, Takala M. (2010). Osa-aikaeläkeläiset rekisteritietojen valossa. Eläketurvakeskuksen keskustelualoitteita 2010:10.
25. Kannisto J. (2014). Eläkkeellä ja työssä. Eläketurvakeskuksen tilastoraportteja 06/2014.
26. Gould R, Kaliva K. (2010). Työkyvyttömyyseläke ja ansiotyö. Eläketurvakeskuksen raportteja. 5.
27. Gould R, Lampi J, Nyman H. (2011). Työhönpaluu kuntoutustuen jälkeen: työeläkejärjestelmän rekisteritietoihin perustuva selvitys. Eläketurvakeskuksen keskustelualoitteita 3.
28. Laaksonen M, Gould R. (2014). Return to work after temporary disability pension in Finland. Journal of occupational rehabilitation: [Epub ahead of print].
29. Kausto J (2013). Effect of partial sick leave on work participation. People and work. Helsinki, Finnish Institute of Occupational Health.
30. Juvonen-Posti P, Pesonen S, Toivio P, Sallmén M, Himanen A-K, Hannu T, Takala E-P, Niiranen K, Autti-Rämö I, Hinkka K, Uitti J (2014). Työssä jatkamisen tuki pitkittyvässä työkyvyttömyydessä Helsinki, Työterveyslaitos
31. Valkonen T, Määttänen N. (2010). Varallisuus ja eläkkeelle siirtyminen. Eläketurvakeskuksen raportteja 2010:1.
32. Karisalmi S, Tuominen E, Kaliva K. (2008). Eläkeaikomukset ja eläkkeellesiirtyminen: seurantatutkimus Joustava eläkeikä -tutkimuksen aineistosta. Eläketurvakeskuksen tutkimuksia 2008:2.



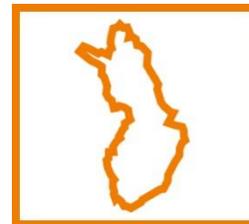
National Report: Finland

33. Tuominen E, Takala M, Ahonen K, Karisalmi S (2010). Palkansaajien eläkeaikomukset 2000-luvulla. In: E Tuominen, Takala M, Forma P (Ed.). Työolot ja työssä jatkaminen. Eläketurvakeskuksen tutkimuksia 2. p. 91-132. Eläketurvakeskus
34. Hakanen J, Perhoniemi R. (2008). Muutokset työssä, työn imu ja jatkamisaikeet työelämässä – kolmen vuoden seurantatutkimus suomalaisilla hammaslääkäreillä. Työelämän tutkimus - Arbetslivsforskning 6(1): 30-43.
35. Ahonen K (2004). Vapaaehtoisen lisäturvan merkitys palkansaajien eläkkeelle siirtymisessä. In: E Tuominen (Ed.). Eläkeuudistus ja ikääntyvien työssä jatkamisaikeet. Eläketurvakeskuksen raportteja 37. Helsinki, Eläketurvakeskus
36. Väänänen J (2004). Vapaaehtoinen eläkesäästäminen: kuka ja miksi? . In: P Forma, Väänänen J (Ed.). Työssä jatkaminen ja työssä jatkamisen tukeminen kunta-alalla Kuntatyö 2010 -tutkimus. p. 171–88. Helsinki, Kuntien eläkevakuutus
37. Horppu R (2007). Keskusteluja työssä jatkamisesta. Työ ja ihminen. 32. Helsinki, Työterveyslaitos.
38. Järnefelt N (2010). Education and longer working lives: a longitudinal study on education differences in the late exit from working life of older employees in Finland. Studies. 1. Finnish Centre for Pensions.
39. Palomäki L-M, Tuominen E. (2010). Työssä käyvät eläkeläiset: erot muihin työssä käyviin ja eläkkeellä oleviin. Eläketurvakeskuksen keskustelualoitteita 2010:4.
40. Polvinen A, Laaksonen M, Gould R, Lahelma E, Martikainen P. (2014). The contribution of major diagnostic causes to socioeconomic differences in disability retirement. Scandinavian journal of work, environment & health 40(4): 353-60.
41. Leinonen T, Pietiläinen O, Laaksonen M, Rahkonen O, Lahelma E, Martikainen P. (2011). Occupational social class and disability retirement among municipal employees--the contribution of health behaviors and working conditions. Scandinavian journal of work, environment & health 37(6): 464-72.
42. Leinonen T, Martikainen P, Lahelma E. (2012). Interrelationships between education, occupational social class, and income as determinants of disability retirement. Scand J Public Health 40(2): 157-66.
43. Gould R, Grönlund H, Korpiluoma R, Nyman H, Tuominen K, Työkyvyttömyysasiain neuvottelukunta. (2007). Miksi masennus vie eläkkeelle? Eläketurvakeskuksen raportteja 1.
44. Pensola T, Gould R, Polvinen A. (2010). Ammatit ja työkyvyttömyyseläkkeet. Masennukseen, muihin mielenterveyden häiriöihin sekä tuki- ja liikuntaelinten sairauksiin perustuvat eläkkeet. Sosiaali- ja terveysministeriön selvityksiä 2010:16.
45. Oksanen T, Pentti J, Vahtera J, Kivimäki M (2012). Sairauspoissaolot kertovat työyhteisöstä. In: T Oksanen (Ed.). Hyvinvointihavaintoja Tutkimustietoa kunta-alalta. p. 29-43. Helsinki, Työterveyslaitos



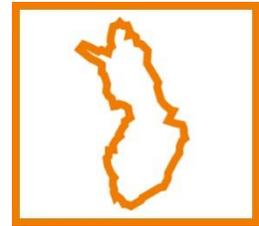
National Report: Finland

46. Gould R, Ilmarinen J, Järvisalo J, Koskinen S, Eds. (2006). Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health.
47. Ruoholinna T (2009). Ikääntyvät työelämässä. Päihittääkö nuoruus ja koulutus aikuisuuden ja kokemuksen? Doctoral thesis, Turun yliopisto. Annales Universitatis Turkuensis C 288.
48. Forma P, Tuominen E, Vaananen-tomppo I. (2005). Who Wants to Continue at Work? Finnish Pension Reform and the Future Plans of Older Workers. European Journal of Social Security (EJSS) 7(3): 227-51.
49. Pekka T (2010). Keitä ne on ne työssä jatkajat? – Tutkimus eläkeaikeista ja työssä jatkamisen tukemisesta kunta-alalla. In: P Forma, Kaartinen R, Pekka T, Väänänen J (Ed.). Jaksako jatkaa? Artikkeleita kuntatyön muutoksesta ja työssä jatkamisen tukemisesta kunta-alalla. p. 111-42. Kuntien eläkevakuutus
50. Seitsamo J. (2005). Qualities of work, functioning and early retirement. A longitudinal study among Finnish ageing workers in 1981–1997. International Congress Series 1280: 136-41.
51. Forma P (2004). Perhe, työ ja työssä jatkaminen. In: P Forma, Väänänen J (Ed.). Työssä jatkaminen ja työssä jatkamisen tukeminen kunta-alalla: Kuntatyö 2010 -tutkimus. p. 115-40. Helsinki, Kuntien eläkevakuutus
52. Harkonmäki K (2007). Predictors of disability retirement: from early intentions to retirement. PhD Doctoral thesis, University of Helsinki. 128 p.
53. Tuominen E. (2013). Flexible retirement age in Finland: The evaluation of the Finnish flexible retirement scheme in light of employer and employee surveys. Finnish Centre for Pension, Working Papers Finnish Centre for Pension, Working Papers 03/2013, .
54. Forma P, Väänänen J. (2003). Joustavasti vanhuuseläkkeelle? Suhtautuminen joustavaan vanhuuseläkeikään kunta-alalla. Yhteiskuntapolitiikka-YP 68(5): 443-53.
55. Forma P (2004). Antavatko erilaiset kysymykset erilaisen kuvan työssä jatkamiseen liittyvistä suunnitelmista? In: P Forma, Väänänen J (Ed.). Työssä jatkaminen ja työssä jatkamisen tukeminen kunta-alalla Kuntatyö 2010 -tutkimus p. 189–208. Helsinki, Kuntien eläkevakuutus
56. Laine M, Laakso S, Wickström G. (2010). Yli 50-vuotiaiden valmius jatkaa sosiaali- ja terveydenhuollon työssä. Työelämän tutkimus – Arbetslivsforskning 8(1): 3-12.
57. Saari P (2008). Mistä kuntatyöntekijöiden lisääntyneet eläkeaikomukset johtuvat? In: P Forma, Harkonmäki K, Saari P, Väänänen J (Ed.). Ketkä tekevät kuntatyön tulevaisuudessa? Kuntatyö 2010 -tutkimus p. 61–74. Helsinki Kuntien eläkevakuutus,
58. von Bonsdorff ME (2009). Intentions of early retirement and continuing to work among middle-aged and older employees. Jyväskylä studies in business and economics, 83. Jyväskylä, University of Jyväskylä.



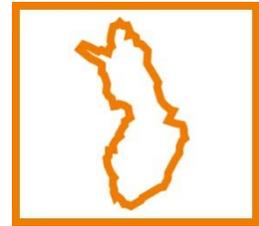
National Report: Finland

59. Forma P, Väänänen J, Eds. (2004). Työssä jatkaminen ja työssä jatkamisen tukeminen kunta-alalla. Kuntatyö 2010 -tutkimus. Kuntien eläkevakuutuksen julkaisuja. Helsinki, Kuntien eläkevakuutus.
60. Tuominen E, Takala M, Forma P, Eds. (2010). Työolot ja työssä jatkaminen. Eläketurvakeskuksen tutkimuksia
61. Korhonen A (2008). Työelämän uhkatekijät kunta-alalla ja niiden yhteys työtyytyväisyyteen ja työssä pysymisaikeisiin. In: P Forma, Harkonmäki K, Saari P, Väänänen J (Ed.). Ketkä tekevät kuntatyön tulevaisuudessa? Kuntatyö 2010 -tutkimus. p. 43–60. Helsinki, Kuntien eläkevakuutus
62. Salo P, Ala-Mursula L, Rod NH, Tucker P, Pentti J, Kivimäki M, Vahtera J. (2014). Work time control and sleep disturbances: prospective cohort study of Finnish public sector employees. *Sleep* 37(7): 1217-25.
63. Ala-Mursula L, Vahtera J, Pentti J, Kivimäki M. (2004). Effect of employee worktime control on health: a prospective cohort study. *Occupational and environmental medicine* 61(3): 254-61.
64. Vahtera J, Laine S, Virtanen M, Oksanen T, Koskinen A, Pentti J, Kivimäki M. (2010). Employee control over working times and risk of cause-specific disability pension: the Finnish Public Sector Study. *Occupational and environmental medicine* 67(7): 479-85.
65. Virtanen M, Oksanen T, Batty GD, Ala-Mursula L, Salo P, Elovainio M, Pentti J, Lyback K, Vahtera J, Kivimäki M. (2014). Extending employment beyond the pensionable age: a cohort study of the influence of chronic diseases, health risk factors, and working conditions. *PLoS one* 9(2): e88695.
66. Virtanen M, Heikkilä K, Jokela M, Ferrie JE, Batty GD, Vahtera J, Kivimäki M. (2012). Long working hours and coronary heart disease: a systematic review and meta-analysis. *American journal of epidemiology* 176(7): 586-96.
67. Krause N, Lynch J, Kaplan GA, Cohen RD, Goldberg DE, Salonen JT. (1997). Predictors of disability retirement. *Scandinavian journal of work, environment & health* 23(6): 403-13.
68. Lahelma E, Laaksonen M, Lallukka T, Martikainen P, Pietiläinen O, Saastamoinen P, Gould R, Rahkonen O. (2012). Working conditions as risk factors for disability retirement: a longitudinal register linkage study. *BMC public health* 12: 309.
69. Nätti J, Oinas T, Härmä M, Anttila T, Kandolin I. (2014). Combined effects of shiftwork and individual working time control on long-term sickness absence: a prospective study of Finnish employees. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine* 56(7): 732-8.
70. Ala-Mursula L, Vahtera J, Kouvonen A, Väänänen A, Linna A, Pentti J, Kivimäki M. (2006). Long hours in paid and domestic work and subsequent sickness absence: does control over daily working hours matter? *Occupational and environmental medicine* 63(9): 608-16.
71. Pensola T, Järviskoski A (2006). Sosiaalinen tuki ja osallistuminen. In: R Gould, Ilmarinen J, Järvisalo J, Koskinen S (Ed.). Työkyvyn ulottuvuudet Terveys 2000 -tutkimuksen tuloksia. p.



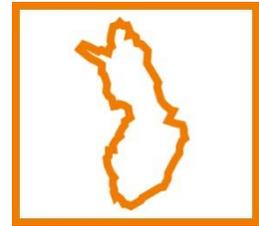
National Report: Finland

- 190-5. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health
72. Oksanen T, Virtanen M (2012). Työyhteisön sosiaalinen pääoma. In: T Oksanen (Ed.). Hyvinvointihavaintoja Tutkimustietoa kunta-alalta. p. 55-63. Helsinki, Työterveyslaitos
 73. Huuhtanen P, Tuomi K. (2006). Työ ja työkyky vakavien eläkeajatusten ennustajina: seurantalutkimus kunta-alalla 1981 - 92 sekä eläke ajatusten toteutuminen 1997. Työ ja ihminen 20(1): 22 - 41.
 74. von Bonsdorff ME, Vanhala S (2012). Henkilöstön hyvinvoinnin, osallistavien henkilöstökäytäntöjen , ja eläkeaikeiden yhteys tuloksellisuuteen metalliteollisuudessa ja , vähittäiskaupan alalla. In: S Vanhala, Tilev K, Lindström S (Ed.). Ristivetoa vai yhtä köyttä? Aalto-yliopiston julkaisusarja Kauppa & talous 2/2012. p. 47-59. Helsinki, Aalto-yliopisto
 75. Forma P (2004). Työhön suhtautuminen ja työssä jatkaminen. In: P Forma, Väänänen J (Ed.). Työssä jatkaminen ja työssä jatkamisen tukeminen kunta-alalla Kuntatyö 2010 -tutkimus. p. 209–29. Helsinki, Kuntien eläkevakuutus
 76. Juvonen-Posti P, Joensuu M, Reiman A, Heusala T, Takala E-P, Ahonen. G. (2014). Työkykyjohtaminen – johdettua yhdessä tekemistä. Tapaustutkimus käytännön johtamisenmenettelyistä ja taloudellisesta vaikuttavuudesta kunnallisessa liikelaitoksessa. Työterveyslaitos. Helsinki.
 77. Ahonen G, Parvinen L, Vainio H, Husman K, Ylikoski M, Parvinen A, Liira J, Puputti I, Parry S. (2011). Arvopohjainen työkyvyn hallinta tehostaa työterveyshuoltoa – Kahden yrityksen tapauskuvaus. Suomen Lääkärilehti 66: 921-6.
 78. Träskelin M (2011). Edelleen työkykyinen: kokemuksia osatyökyvyttömyyseläkkeiden käytöstä, niiden haasteista ja mahdollisuuksista kunta-alalla. Kevan tutkimuksia. 1. Helsinki, Keva.
 79. Saari P, Forma P, Kaartinen R, Pekka T. (2011). "Jaksaa käydä vielä töissä, jopa nauttii siitä!" : osatyökyvyttömyyseläkkeen toimivuus kuntatyössä. Kevan tutkimuksia 6/2011: 51.
 80. Träskelin M (2011). Strategiat ja toimintamallit : osatyökykyisten työssä jatkamisen tukeminen viidessä organisaatiossa. Kevan tutkimuksia, 4/2011. Helsinki, Keva.
 81. Kankainen H. (2008). "Ihan toisella tsempillä puskee vaikka ikää on". Arviointitutkimus HKR-Tekniikan ikäohjelman toteuttamisesta, toteutumisesta ja vaikutuksista. Kuntoutussäätiö.
 82. Perkiö-Mäkelä M, Kauppinen T, Eds. (2012). Työ, terveys ja työssä jatkamisajatukset. Työ ja ihminen, Tutkimusraportti; 41. Helsinki, Työterveyslaitos.
 83. Kärkkäinen S, Pitkäniemi J, Silventoinen K, Svedberg P, Huunan-Seppälä A, Koskenvuo K, Koskenvuo M, Alexanderson K, Kaprio J, Ropponen A. (2013). Disability pension due to musculoskeletal diagnoses: importance of work-related factors in a prospective cohort study of Finnish twins. Scandinavian journal of work, environment & health 39(4): 343-50.
 84. Ropponen A, Silventoinen K, Svedberg P, Alexanderson K, Huunan-Seppälä A, Koskenvuo K, Koskenvuo M, Kaprio J. (2012). Effects of work and lifestyle on risk for future disability pension



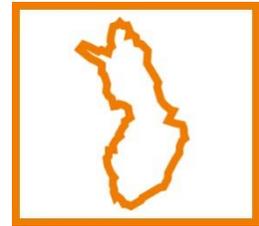
National Report: Finland

- due to low back diagnoses: a 30-year prospective study of Finnish twins. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine* 54(11): 1330-6.
85. Harkonmäki K, Koskenvuo M, Forma P. (2008). Tahdon asia? Näkökulmia työssä jatkamiseen ja terveyteen 3/2008. *Kuntien eläkevakuutus*.
 86. Salo P, Vahtera J, Saltychev M, Pentti J, Kivimäki M (2012). Työkyvyttömyys ja sen ehkäisy. In: T Oksanen (Ed.). *Hyvinvointihavainnot Tutkimustietoa kunta-alalta*. p. 91-122. *Työterveyslaitos*
 87. Kaila-Kangas L, Haukka E, Miranda H, Kivekäs T, Ahola K, Luukkonen R, Shiri R, Kaaria S, Heliövaara M, Leino-Arjas P. (2014). Common mental and musculoskeletal disorders as predictors of disability retirement among Finns. *Journal of affective disorders* 165: 38-44.
 88. Pietiläinen O, Laaksonen M, Rahkonen O, Lahelma E. (2011). Self-rated health as a predictor of disability retirement--the contribution of ill-health and working conditions. *PloS one* 6(9): e25004.
 89. Harkonmäki K, Lahelma E, Martikainen P, Rahkonen O, Silventoinen K. (2006). Mental health functioning (SF-36) and intentions to retire early among ageing municipal employees: the Helsinki Health Study. *Scand J Public Health* 34(2): 190-8.
 90. Harkonmäki K, Rahkonen O, Martikainen P, Silventoinen K, Lahelma E. (2006). Associations of SF-36 mental health functioning and work and family related factors with intentions to retire early among employees. *Occupational and environmental medicine* 63(8): 558-63.
 91. Saastamoinen P, Laaksonen M, Kääriä SM, Lallukka T, Leino-Arjas P, Rahkonen O, Lahelma E. (2012). Pain and disability retirement: a prospective cohort study. *Pain* 153(3): 526-31.
 92. Haukka E, Kaila-Kangas L, Ojajarvi A, Saastamoinen P, Holtermann A, Jørgensen MB, Karppinen J, Heliövaara M, Leino-Arjas P. (2015). Multisite musculoskeletal pain predicts medically certified disability retirement among Finns. *European Journal of Pain*: (in press).
 93. Seitsamo J (2007). Retirement transition and well-being: a 16-year longitudinal study. *People and work*. 76. Helsinki, Finnish Institute of Occupational Health.
 94. Salonsalmi A, Laaksonen M, Lahelma E, Rahkonen O. (2012). Drinking habits and disability retirement. *Addiction (Abingdon, England)* 107(12): 2128-36.
 95. Roos E, Laaksonen M, Rahkonen O, Lahelma E, Lallukka T. (2013). Relative weight and disability retirement: a prospective cohort study. *Scandinavian journal of work, environment & health* 39(3): 259-67.
 96. Haaramo P, Rahkonen O, Lahelma E, Lallukka T. (2012). The joint association of sleep duration and insomnia symptoms with disability retirement--a longitudinal, register-linked study. *Scandinavian journal of work, environment & health* 38(5): 427-35.
 97. Lallukka T, Haaramo P, Lahelma E, Rahkonen O. (2011). Sleep problems and disability retirement: a register-based follow-up study. *American journal of epidemiology* 173(8): 871-81.



National Report: Finland

98. Lallukka T, Øverland S, Haaramo P, Saastamoinen P, Bjorvatn B, Sivertsen B. (2014). The joint contribution of pain and insomnia to sickness absence and disability retirement: a register-linkage study among Norwegian and Finnish employees. *European journal of pain* (London, England) 18(6): 883-92.
99. Ropponen A, Silventoinen K, Hublin C, Svedberg P, Koskenvuo M, Kaprio J. (2013). Sleep patterns as predictors for disability pension due to low back diagnoses: a 23-year longitudinal study of Finnish twins. *Sleep* 36(6): 891-7.
100. Suominen S, Gould R, Ahvenainen J, Vahtera J, Uutela A, Koskenvuo M. (2005). Sense of coherence and disability pensions. A nationwide, register based prospective population study of 2196 adult Finns. *Journal of Epidemiology and Community Health* 59(6): 455-9.
101. Volanen SM, Suominen S, Lahelma E, Koskenvuo K, Koskenvuo M, Silventoinen K. (2010). Sense of coherence and intentions to retire early among Finnish women and men. *BMC public health* 10: 22.
102. Ilmarinen J, Tuomi K, Eskelinen L, Nygard CH, HUUHTANEN P, Klockars M. (1991). Background and objectives of the Finnish research project on aging workers in municipal occupations. *Scandinavian journal of work, environment & health* 17 Suppl 1: 7-11.
103. Ilmarinen J, Tuomi K, Eskelinen L, Nygard CH, HUUHTANEN P, Klockars M. (1991). Summary and recommendations of a project involving cross-sectional and follow-up studies on the aging worker in Finnish municipal occupations (1981-1985). *Scandinavian journal of work, environment & health* 17 Suppl 1: 135-41.
104. Ilmarinen J. (2009). Work ability--a comprehensive concept for occupational health research and prevention. *Scandinavian journal of work, environment & health* 35(1): 1-5.
105. Ilmarinen J, Tuomi K, Seitsamo J. (2005). New dimensions of work ability. *International Congress Series* 1280: 3-7.
106. Karisalmi S, Gould R, Virta L. (2009). Työkyvyttömyyseläkeläiset eri järjestelmissä. *Eläketurvakeskuksen raportteja 2009:2*. Eläketurvakeskus.
107. Gould R, Ilmarinen J, Järvisalo J, Koskinen S, Eds. (2008). Dimensions of work ability. Results of the Health 2000 Survey. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health.
108. Gould R, Koskinen S, Sainio P, Blomgren J, Kivekäs J, Ilmarinen J, Husman P, Seitsamo J (2012). Työkyky. In: S Koskinen, Lundqvist A, Ristiluoma N (Ed.). *Terveys, toimintakyky ja hyvinvointi Suomessa 2011 Raportti 68/2012*. p. 141-4. Helsinki, Terveystieteiden tutkimuskeskus (THL)
109. Ylöstalo P, Jukka P. (2011). Työolobarometri - lokakuu 2010. Työ ja elinkeinoministeriön julkaisuja Työ ja yrittäjyys. 25/2011. Työ ja elinkeinoministeriö. Helsinki.
110. Seitsamo J, Tuomi K, Ilmarinen J (2008). Diversity of Work Ability and the Work Ability Index. In: R Gould, Ilmarinen J, Järvisalo J, Koskinen S (Ed.). *Dimensions of work ability Results of the Health 2000 Survey*. p. 109-21. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health



National Report: Finland

111. Pensola T, Järvikoski A, Järvisalo J (2008). Unemployment and Work Ability. In: R Gould, Ilmarinen J, Järvisalo J, Koskinen S (Ed.). Dimensions of work ability Results of the Health 2000 Survey. p. 123-30. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health
112. Sainio P, Koskinen S, Martelin T, Gould R (2008). Functional capacity. In: R Gould, Ilmarinen J, Järvisalo J, Koskinen S (Ed.). Dimensions of work ability Results of the Health 2000 Survey. p. 80-90. Helsinki, Finnish Centre for Pensions, The Social Insurance Institution, National Public Health Institute, Finnish Institute of Occupational Health
113. Tuomala J (2012). Vaikuttaako kuntoutus työssä jatkamiseen? In: R Gould, Härköpää K, Järvikoski A (Ed.). Toimiiko työeläkekuntoutus? Eläketurvakeskuksen tutkimuksia 01/2012. p. 163–91. Helsinki
114. Saarnio L. (2014). Työeläkekuntoutus vuonna 2013. Eläketurvakeskuksen tilastoraportteja 05/2014. Eläketurvakeskuksen tilastoraportteja 05/2014. 05/2014. Eläketurvakeskus.
115. Gould R, Härköpää K, Järvikoski A (2012). Toimiiko työeläkekuntoutus? Tutkimuksia. 1. Helsinki, Eläketurvakeskus.
116. Takala M, Karisalmi S, Tuominen E (2010). Työolot ja työssä jatkaminen. In: E Tuominen, Takala M, Forma P (Ed.). Työolot ja työssä jatkaminen. Eläketurvakeskuksen tutkimuksia 2010:2. p. 19-30.
117. Harkonmäki K, Martikainen P, Lahelma E, Pitkäniemi J, Halmeenmäki T, Silventoinen K, Rahkonen O. (2009). Intentions to retire, life dissatisfaction and the subsequent risk of disability retirement. Scand J Public Health 37(3): 252-9.
118. Väre M, Pietola K, Weiss C. (2010). The irrelevance of stated plans in predicting farm successions in Finland. Agricultural and food science 19(1): 81-95.
119. Rytönen H, Hyttinen M, Suolanen S, Hänninen K, Juntunen J. (2007). Työelämän tervaskannot. Mikä saa jaksamaan fyysisesti raskaassa työssä? Eteran tutkimuksia. 6. Etera,. Helsinki.
120. Hämäläinen S (2013). Mikä motivoi jatkamaan työelämässä eläkeiän jälkeen? : Työuran jatkamiseen ohjaava sisäinen ja ulkoinen motivaatio itsesäätelyn kautta tarkasteltuna. pro gradu- tutkielma Master thesis, Turun yliopiston kauppakorkeakoulu, Johtaminen ja organisointi. 121 p.