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Introduction¹

Demographic characteristics

As in many other European countries, the population in the Netherlands is ageing rapidly. Table 1 shows the proportion of older age groups in the Netherlands and in the EU 28. The percentage of people in older age groups has increased over the years. The percentage of people over 50 years has increased from 29.9% in 1998 to 37.1% in 2013. Dutch figures are comparable to the figures in the EU 28.

Table 1: Proportion of people in older age groups for the EU 28 and the Netherlands

AGE		1998	2003	2008	2013
50 years or over	EU 28		33.9	35.8	37.9
50 years or over	Netherlands	29.9	31.8	34.4	37.1
50-54 years	EU 28		6.7	6.8	7.1
50-54 years	Netherlands	6.8	6.9	7.0	7.4
55-59 years	EU 28		5.8	6.4	6.6
55-59 years	Netherlands	5.1	6.4	6.6	6.6
60-64 years	EU 28		5.3	5.4	6.1
60-64 years	Netherlands	4.4	4.8	6.1	6.3
65-69 years	EU 28		4.8	4.9	5.1
65-69 years	Netherlands	4.1	4.0	4.4	5.6
70-74 years	EU 28		4.3	4.3	4.4
70-74 years	Netherlands	3.5	3.5	3.6	4.0
75-79 years	EU 28		3.4	3.5	3.7
75-79 years	Netherlands	2.7	2.8	3.0	3.1
80 years or over	EU 28		3.8	4.4	5.1
80 years or over	Netherlands	3.2	3.4	3.8	4.2

Source: Eurostat

Labour market

Eurostat figures show that the Netherlands have an overall high employment rate. In 2013 it was 74.3%, while in the EU 28 this figure was 64.1%. In older age groups the employment rate is much lower: 60.1% in the age group 55-64, compared to 82.4% in the age group 25-54. Differences between men and women are large, with men having a relatively high employment rate and women having a relatively low employment rate compared to other countries (1). It used to be common

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practice in the Netherlands to leave the labour market through early retirement and disability schemes. However, after several policy changes, employment rates among the older workers have been gradually raising since the late 1990s. The mean age of retirement has increased from 60.8 in 2000 to 63.9 in 2013 (Statistics Netherlands). The percentage that is still working after the state pension age of 65 is very low: 6.6%.

A broad indication of the rising economic burden that an ageing society may place on the working-age population is given by the old age dependency ratio, i.e. the ratio of the population aged 65 and over to the population aged 20-64. In the Netherlands it is estimated that this ratio will double, from 27.2% in 2012 to 52.5% in 2050 (1).

Table 2: Employment rates by age group for the EU 28 and the Netherlands

AGE		1998	2003	2008	2013
15-64 years	EU 28	:	62.6	65.7	64.1
15-64 years	Netherlands	69.4	73.8	77.2	74.3
15-39 years	EU 28	:	61.8	63.9	59.9
15-39 years	Netherlands	75.1	79.3	81.3	74.8
40-44 years	EU 28	:	79.4	82.2	79.5
40-44 years	Netherlands	80.2	82.8	87.3	82.8
45-49 years	EU 28	:	77.3	80.9	79.2
45-49 years	Netherlands	77.1	82.6	85.7	82.7
50-54 years	EU 28	:	70.7	75.4	75.7
50-54 years	Netherlands	69.5	74.6	81.9	79.9
55-59 years	EU 28	:	53.5	58.8	64.7
55-59 years	Netherlands	47.4	59.5	69.8	71.9
60-64 years	EU 28	:	24.9	30.1	34.4
60-64 years	Netherlands	16.2	24.2	35.1	47.4
65 years or over	EU 28	:	4.3	4.7	5.1
65 years or over	Netherlands	2.8	3.5	5.4	6.6

Source: Eurostat

Part-time work is more common in the Netherlands than in the rest of Europe, especially in the older age groups. However, in 2013 the percentage of part-time workers in the age group 55-64 was similar to the percentage of part-time workers in the total working age population (about 50% according to the Eurostat website).

According to a recent OECD report, full-time earnings for 55-59 year-olds are 1.6 times the earnings of 25-29 year-olds, compared with the OECD average of 1.3. The incidence of self-employment is below the OECD average (20.9%, compared with 26.1%) (1). The hiring rates of older workers in the Netherlands remain, however, particularly low (3.7%, compared with 5% for the EU21 countries).

The OECD report mentioned before also concludes that older workers in the Netherlands have a highly stable employment situation: the country ranks among those with the highest retention rate after the age of 60. The indicator for retention is the ratio of employees aged 60-64 with tenure of five years or more as a percentage of all employees aged 55-59 five years previously. This rate stood at 50% in 2012, 13.2 percentage points higher than in 2007. The high percentage strongly suggests that older workers are more likely to remain with their employer for a further five years (1).



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Employment policies

The Dutch pension system has three main pillars:

- Basic state old age pension under a statutory insurance scheme (first pillar);
- Supplementary pension schemes by virtue of the employer (second pillar);
- Private savings for retirement (third pillar).

Supplementary to the state pensions and the largest pillar in terms of the overall Dutch pension system are the occupational non-statutory pension schemes. The employer usually pays more than fifty percent of the pension contributions. This system of supplementary pension schemes has a rich history and is the backbone of the old-age pension system in the Netherlands. Occupational schemes in the Netherlands have broad coverage; about 90% of all employees are covered (1). In per capita terms, the Netherlands has one of the largest pension reserves in the world (2). The statutory pension age in 2014 is 65 years and two months.

In the last ten years, the Dutch government has passed several laws and implemented several policies in an attempt to increase the employment participation of older workers. The most prominent ones are:

- 2004: Employers pay first two years of sickness benefits, making early retirement through disability insurance much more expensive.(3)
- 2004: Introduction of job search obligations for unemployed workers above the age of 57.5.(4,5)
- 2004: Law adopted on the equal treatment of labour with respect to age, which explicitly forbids discrimination with respect to age in hiring, working conditions, and lay-offs.(1)
- 2006: Full transition to actuarial fair early retirement; integration of early retirement schemes into old-age pension schemes.(3)
- 2006: Reduction of potential benefit duration of unemployment insurance, from 60 months to 38 months.(4)
- 2012: Statutory retirement age will be raised gradually from 65 to reach 66 in 2018 and 67 in 2021.(1)

Method

Our aim was to collect scientific findings on the relation between the factors as specified in the domains and employment participation. We limited our search to publications from 2000 till now. Papers from 2000 till 2004 were only included if they were considered particularly relevant. Papers in peer reviewed journals as well as books and reports were included. The following sources were included:

- Scopus; database containing abstracts for academic journal articles
- Picarta; Dutch databases containing the library collections of the universities in The Netherlands
- OECD library; checked for relevant statistics and country reports



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- www.rijksoverheid.nl; website of the Dutch government containing a database with publications of all ministries
- The Social and Economic Council of the Netherlands (SER)
- Internet searches and searches in personal archives of the authors for Dutch cohort studies among the working population or among ageing persons (STREAM, LASA, Maastricht Cohort study, Life Lines, cohort 50+)
- Websites of Dutch research institutes with expertise in this field (TNO, CPB, NIDI, Ecorys, Astri, RIVM, SEO, ROA)
- Personal archives of the authors
- References in relevant reports/articles.

First, titles were screened on potential relevancy for our aim. Then, abstracts, methods, and conclusions were screened to examine if the report was relevant for the topic at hand, if it referred to research that could be considered scientific, and if this research referred to *Dutch* employment participation of older workers. Subsequently, relevant publications were classified according to phenotype.

Findings

Labour market

Only a few studies were found in the Dutch literature on the relation between labour market factors and employment participation of older workers. While there were many studies that touched upon some aspect of the labour market for older workers, most of them did not empirically analyse labour market participation of older workers, and hence, were excluded for further analysis. Three recent studies were included in this literature overview.

Conen et al. (6) found a significant increase in the number of employers that encourage their employees to work until age 65 between 2000 and 2009, even when controlling for labour demand and experienced labour shortages. They found no such increase in recruitment of older workers during recession. Instead, they concluded that the recruitment of older workers is more directly tied to the economic climate of the moment than the efforts to retain them. The effects of economic developments on employers' behaviour towards older workers is corroborated in a qualitative study by Conen et al. (7).

Van Solinge (8) studied the entry into self-employment after retirement from a wage and salary-job. She found that older workers that perceive their retirement from their wage-and-salary job to be completely involuntary are significantly more likely to prolong their careers by entering into self-employment. Still, as most retirements in the Netherlands are not perceived as completely involuntary, most older workers seem to enter self-employment out of opportunity rather than out of necessity (as entry into self-employment is also related to non-labour market factors such as financial and human capital and high self-efficacy).

Reference	Phenotype	Factor	Population	Findings*
Conen et al. (2011) (6)	Return to work	Economic climate	Dutch employers	+
	Work longer	Time effect		+
Conen et al. (2014) (7)	Work longer	Economic climate	Dutch employers	+



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Van Solinge (2014) (8)	Work longer (in self-employment)	Involuntary retirement	Dutch employees	+
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* + = positive relation between factor and outcome
 - = negative relation between factor and outcome
 +/- = no evidence

Legislation & its implementation

Several legislative changes took place in the Netherlands in the past ten years (see section on employment policies in introduction). Some studies have been carried out that assess the effects of new legislation. Euwals et al. (9) used administrative data to analyse the movement into early retirement under flat-rate early retirement schemes (in which working additional years would not lead to any higher retirement income), and after a policy reform under ‘actuarially fair’ early retirement schemes (in which retiring early significantly decreases retirement income). They concluded that the reform, which took place in the late 1990s, but at different times for different sectors, was effective in increasing the labour supply of older workers, and thereby increasing older workers’ employment participation. Euwals et al. (3) further analysed the 2006 reform that accelerated the transition into actuarially fair early retirement for all employees, and integrated the early retirement schemes into the occupational pension system. Also, they looked at legislation aimed at closing the route into early retirement via disability insurance, mainly the 2004 reform that increased the employer’s obligation for paid sick leave from one to two years, and the 2006 reform that introduced a distinction between ‘fully and permanently disabled’ and ‘temporarily and/or partially disabled’. They concluded that simultaneously making early retirement much more unattractive and making both employees and employers pay more for disability insurance effectively discouraged early retirement and prevented ‘substitution’ via disability insurance.

Koning & Raterink (4) used Dutch registered data from uninsurance spells between 1999 and 2008 to study whether two policy changes – (1) increased job search obligations for older unemployed workers, and (2) shortening the period of unemployment benefits – are successful in explaining changes in re-employment rates for unemployed older workers. These reforms effectively closed the alternative route of early retirement through unemployment benefits. The effects of the increased job search obligations policy reform of 2004 are studied more extensively by Lammers et al. (5). They found that, due to the reform, the chance of re-employment within 24 months is increased by 6% for males and 11% for females. However, they also found an increase in early retirement through the disability insurance route of 4% for males and 9% for females.

No studies were found on the impact of the age discrimination law on employment participation of older workers.

Reference	Phenotype	Factor	Population	Findings*
Euwals et al. (2010) (9)	Early retirement	Making early retirement schemes actuarially fair	Employees aged 55-64	-
Euwals et al. (2012) (3)	Early retirement	Reforms discouraging early retirement	Employees aged 55-64	-
	Early retirement due to disability pension	Closing alternative route via disability insurance		-
Koning & Raterink (2013) (4)	Return to work	Increased job search obligations	Employees aged 55-64	+
		Shorter potential benefit durations		+
Lammers et al. (2013) (5)	Return to work	Increased job search obligations	Employees aged 55-59	+
	Early retirement due to	Increased job search		-



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	unemployment	obligations		
	Early retirement due to disability pension	Increased job search obligations		+

- * + = positive relation between factor and outcome
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Financial Factors

Several studies were found in the Dutch literature on the impact of financial factors, such as financial wealth and pension shortages, on the employment participation of older workers. Most of the studies that were found assess the effects of financial factors on taking early retirement. Even though early retirement is now ‘actuarially fair’ (see legislation), older workers with sufficient financial capital may still opt for this route.

Damman et al. (10) found that ageing men with a pension shortage (for example due to several years of unemployment or self-employment) and older workers with financially dependent children are less likely to take up early retirement. Van Solinge (8) examined the movement into self-employment at older age. She found that financial capital has a positive effect of choosing to go into self-employment instead of staying in wage-and-salary employment, but not of choosing self-employment over full retirement. Whether the move into self-employment at older ages instead of staying in wage-and-salary employment contributes to the total employment participation of older workers is unclear. Henkens et al. (11) found that financial factors affect the career duration in a number of ways: lower pension benefits and a pension shortage increase the likelihood that someone will keep working, while more financial capital has a negative effect.

In a qualitative study, Reeuwijk et al. (12) found that financial factors are essential in the decision whether or not to retire early. Using quantitative data, De Wind et al. (13) found that older workers who self-report that they can financially afford early retirement are more likely to take up early retirement. Similar results are found by Proper et al. (2009) (14). They found that financial incentives are an important reason why older workers take gradual retirement over full early retirement, which is corroborated in a qualitative part of their study.

In another study, Euwals & Trevisan (15) found that financial incentives affect everyone’s early retirement decision to some extent, but they distinguish between high- and low-wage earners in their analysis, and concluded that low-wage earners are more sensitive to financial incentives than high wage-earners.

Reference	Phenotype	Factor	Population	Findings*
Damman et al. (2011) (10)	Early retirement	Pension shortage Financially dependent children	Male employees aged 50+	- -
De Wind et al. (2014) (13)	Early retirement	Early retirement financially affordable	Employees aged 59-63	+
Euwals & Trevisan (2011) (15)	Early retirement	Financial incentives (esp. for low-wage earners)	Employees aged 50+	+
Henkens et al. (2009) (11)	Work longer	Lower occupational pension Financial capital Pension shortage	Employees aged 50+	+ - +
Proper et al. (2009) (14)	Work longer	Financial incentives	Employees aged 55-64	+



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Reeuwijk et al. (2013) (12)	Early retirement	Financial opportunity for early retirement	Employees aged 60-64	+
Van Solinge (2014) (8)	Work longer (in self-employment)	Financial capital Pension shortage	Employees aged 50+	+/- +/-

* + = positive relation between factor and outcome
- = negative relation between factor and outcome
+/- = no evidence

Social Position

Only a few studies were found in the Dutch literature that analysed the impact of socio-economic or socio-demographic characteristics on employment participation of older workers. All these studies were on education. No studies were found on the influence of gender, ethnicity, income, profession etc.

Damman et al. (10) studied the impact of early and mid-life educational experiences on men's early retirement. They found that workers that joined the labour market later (and presumably received more education) are less likely to retire early, while workers that have participated in additional training during their careers are slightly more likely to retire early. In an analysis by De Wind et al. (13), no significant relation was found between the level of education and taking early retirement. Finally, Schuring et al. (16) found that older workers with the lowest educational background (pre-primary, primary, and lower secondary education) were more likely to retire early than older workers with an intermediate or high educational background. However, education did not affect the likelihood of returning to work after having become disabled, unemployed, or economic inactivity.

Reference	Phenotype	Factor	Population	Findings*
Damman et al. (2011) (10)	Early retirement	Age entering labour market Additional training during career	Male employees aged 50+	- +
De Wind et al. (2014) (13)	Early retirement	Education	Employees aged 45-64	+/-
Schuring et al. (2013) (16)	Early retirement	Education	Employees aged 45-64	-
	Return to work		Employees age 18-64	+/-

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+/- = no evidence

Domestic domain

We found five studies, which investigated one or more elements of the domestic domain as a determinant of employment participation. The following elements of the domestic domain were studied: having a partner, attitude of the partner with respect to employment participation, the wish to spend more time with family, informal care for others and midlife family experiences, i.e. late transitions into parenthood and late divorces.

A study of De Wind et al. (13) showed that a positive attitude of the partner with respect to early retirement is a predictor of early retirement. De Grip and Montizaan (17) showed that marriage is a predictor of early retirement among men. In a qualitative study, Reeuwijk et al. (12) identified



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spending more time with spouse or grandchildren and informal care for others as pull factors towards early retirement. In addition, Damman et al. (10) identified certain midlife family experiences as predictor of retirement intention, but not of actual retirement behaviour; they showed that although late transitions into parenthood and late divorces were associated with retirement intention, these midlife family experiences did not predict actual retirement behaviour. Another study of De Cuelenaere and Chotkowski (18) pointed to the importance of the partner with respect to retirement decisions. They showed that the partner is considered as the most important discussion partner regarding decisions about retirement.

Reference	Phenotype	Factor	Population	Findings*
De Wind et al. (2014) (13)	Early retirement	Positive attitude of the partner with respect to early retirement	Employees age 58-62	+
Reeuwijk et al. (2013)(12)	Early retirement	Spending more time with spouse or grandchildren Care for others	Employees age 58-64	+ +
Damman et al. (2011) (10)	Retirement intention	Late transitions into parenthood Late divorces	Male civil servants and employees in private sector organizations	+ +
	Early retirement	Late transitions into parenthood Late divorces		+/- +/-
De Cuelenaere & Chotkowski (2008) (18)	Early retirement	Partner as discussion partner	Potential labour force	+
De Grip & Montizaan (2010) (17)	Early retirement	Marriage	Employees born in 1949	+

* + = positive relation between factor and outcome
- = negative relation between factor and outcome
+/- = no evidence

Work – HRM and interventions

The Dutch literature describes many interventions designed with the purpose of retaining or increasing employment participation of older workers. Most of these interventions are age sensitive personnel policies. Very few of these policies have been tested for their effectiveness. Only one empirically tested intervention was found. Two research reports provide some additional information on the effects of interventions on employment participation of older workers.

De Boer et al. (19) tested whether participation in an in-company occupational health program was effective in preventing early retirement. The six month program comprised a minimum of three consultations with the worker's occupational physician including an assessment interview, the construction of a detailed action plan, consultation of the employee's supervisors and personnel managers, and, if appropriate, referral to the general practitioner, a medical specialist, or psychologist. 116 Employees of a large company participated in the study. These employees were 50 years and older *and* indicated that they would not be able to work up to their retirement. One and a half years after the end of the intervention program, the results showed that fewer employees (11%) in the intervention group retired early than in the control group (28%).

Borghans et al. (20) described the relationship between flexible payment options (for instance the possibility of 'demotion' or flexible 'pay by performance' measures) and older workers leaving the



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workforce. The results showed that flexible rewards measures are positively related to older workers' decision to leave the workforce.

Lammers et al. (21) showed that older workers (age group 45-55) that become unemployed benefit from individually targeted reintegration arrangements (IRO in Dutch) and training to find reemployment. Their chances of finding a new job within 8 years after becoming unemployed increased by 14,2 percent after following an IRO or training. In comparison: young employees' (25-45 years) chances of finding a new job after following IRO or training increased only by 2,1 percent.

Reference	Phenotype	Factor	Population	Findings*
De Boer et al. (2004) (19)	Early retirement	Participation in an occupational health program	Employees of a large company, 50+ years who reported not to be able to work up to their retirement age	-
Lammers et al. (2013) (21)	Return to work	Participation in an IRO or training	Unemployed aged 45-55	+
Borghans et al. (2007) (20)	Early retirement	Flexible payment arrangements	Employees aged 50-59	+

* + = positive relation between factor and outcome
 - = negative relation between factor and outcome
 +/- = no evidence

Work – Work factors

Several Dutch longitudinal studies are available on the relation between work factors and employment participation. Four studies concern older persons in general (13,14,22,23), and another study concerns construction workers (24). One qualitative study is also included (12). The longitudinal studies found no evidence of the effect of physical work factors on early retirement, working longer or disability pension. Psychosocial factors, or a favourable social climate, seem to have more effect on employment participation than physical load. However, the lack of a relation between physical load and employment participation may partly be due to a healthy worker effect, since all studies contain older workers and a heavy physical load may have caused exit from work at an earlier age. Other factors that appear to affect employment participation are company size (25) and challenging work (14).

Reference	Phenotype	Factor	Population	Findings*
Van Klaveren & Heyma 2008 (25)	Early retirement (retirement age)	Company size	Employees	+
De Wind et al.2014 (13)	Early retirement	Job demands Physical load Autonomy Restructuring Social support Good social atmosphere High appreciation	Employees age 59-63	+/- +/- +/- +/- +/- +/- -
De Wind et al.2013 (23)	Early retirement	Job demands Mental load Emotional load	Employees age 59-63	+/- +/- +/-



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		Physical load Autonomy Social support		+/- +/- -
	Disability pension	Job demands Mental load Emotional load Physical load Autonomy Social support	Employees age 45-63	+/- + + +/- +/- -
	Unemployment	Job demands Mental load Emotional load Physical load Autonomy Social support	Employees age 45-63	+/- +/- +/- +/- +/- -
Reeuwijk et al.2013 (12)	Early retirement	Organizational changes Conflicts at work Work pressure Physical job demands	Employees age 58-64	+ + + +
Alavinia et al.2009 (24)	Disability pension	Awkward postures Kneeling/squatting Manual handling Whole body vibration Hand arm vibration Job demands Job control Skill discretion	Male construction workers age 40+	+/- +/- +/- +/- +/- +/- +/- +/-
Boot et al.2014 (22)	Work longer (working status after 3 years)	Physical load Psychosocial demands Psychosocial resources	Employees age 55-62	+/- +/- +**
Proper et al.2009 (14)	Work longer (working status after 3 years)	Challenging work	Persons age 50+	+

* + = positive relation between factor and outcome

- = negative relation between factor and outcome

+/- = no evidence

** Only for workers with chronic diseases

Health & health-related behaviour

Schuring et al. (16) showed that poor health predicted exit from the workforce via unemployment and disability pension among employees aged 18 to 64 years, whereas poor health was not a predictor of becoming economically inactive. In the same study poor health predicted early retirement among employees aged 45 to 64 years. De Wind et al. (13) confirmed that poor physical health predicts the transition from work to early retirement. In a qualitative study De Wind et al. (26) showed that poor health often is one of the reasons to retire early, but that also good health could be a reason for early retirement, because people want to enjoy life as long as their health allows them to do so. Damman et al. (10) showed that midlife health experiences, i.e. severe health problems before the age of 50 years, predicted retirement intentions, but not actual early retirement.

Wouterse et al. (27) showed that among the age group 55 to 64 years healthy individual that work fulltime, have a larger probability to work fulltime three years later than individuals with a less good health. Within the same study good health was to a limited extent a predictor of return to work.



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Most of the studies on the relation between health and employment participation focus on general (perceived) health. We found only one study on the influence of a specific chronic disease on employment participation. Rumball-Smith et al. (28) showed that people diagnosed with diabetes had an increased risk of labour force exit, i.e. economic absence from the workforce, compared to people without the disease.

Boot et al. (22) had quite a different approach than the previously mentioned studies. They investigated differences and similarities in predictors of having paid work in workers aged 55 years and older with and without chronic disease. Fewer depressive symptoms, no functional limitations and lower scores on neuroticism predicted having paid work in both groups. The study showed that the role of psychosocial resources and physical work demands in participation in paid work differed between workers with and without a chronic disease. Low psychosocial resources were predictive for not having paid work in persons with a chronic disease, but not in persons without a chronic disease. Physical work demands were not significantly associated with paid work in both groups, but in persons with a chronic disease physical demands showed a tendency towards significance as predictor of having paid work.

No studies were found on the effects of health-related behaviour on the employment participation of older workers.

Reference	Phenotype	Factor	Population	Findings*
Schuring et al. (2013) (16)	Unemployment	Poor health	Employees age 18-64	+
	Disability pension			+
	Economically inactive			+/-
	Early retirement		Employees age 45-64	+
De Wind et al. (2014) (13)	Early retirement	Good physical health Good mental health	Employees age 59-63	- +/-
De Wind et al. (2013) (26)	Early retirement	Poor health Good health	Employees age 58-64	+ +
Wouterse (2013) (27)	Work longer	Good health	Employees age 55-64	+
	Return to work			+
Damman et al. (2011) (10)	Retirement intentions	Midlife health experiences: severe health problems <age 50 years	Male civil servants and employees in private sector organizations	+
	Early retirement			+/-
Boot et al. (2014) (22)	Work longer (=working status after 3 years)	Self-rated health Depressive symptoms Functional limitations Neuroticism	Employees age 55-62	+/- - - -
Rumball-Smith et al. (2014) (28)	Labour force exit (=economic absence from the labour force)	Diagnosis diabetes	Employees age 50 and older	+

* + = positive relation between aspect of the domestic domain and outcome
- = negative relation between aspect of the domestic domain and outcome
+/- = no evidence

Work ability

In research in the Netherlands, work ability is often used as a proxy for sustainable employability, together with employment participation, retirement, productivity, unemployment and disability (29). Research in which work ability is defined as a determinant for employment participation is scarce.



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We only found two studies, which examined the effect of work ability on early retirement, or rather the role of work ability as a mediator for determinants of early retirement. In a qualitative study, a decrease in work ability was identified as a push factor toward early retirement (12), and in a quantitative study, work ability was found to be a mediating factor for several determinants (health, work, individual and social) on early retirement (30). Another study examined if work ability was a predictive factor for disability among ageing male construction workers and found that a moderate or poor work ability was highly predictive for receiving a disability pension (24).

Reference	Phenotype	Factor	Population	Findings*
Reeuwijk et al. 2013 (12)	Early retirement	Ability to continue working	Employees age 58-64	-
De Wind et al. 2014 (30)	Early retirement	WAI (1 st question)	Employees age 58-62	-
Alavinia et al. 2009 (24)	Disability pension	WAI	Male construction workers age 40+	-

* + = positive relation between factor and outcome
 - = negative relation between factor and outcome
 +/- = no evidence

Motivation

Some studies were found on the relation between motivation, age and work. The concept of motivation differs among these studies. Motivation may vary from work engagement (30) and the intention to (continue to) work (31) to intrinsic and extrinsic motivators (32) and the importance workers attach to job characteristics (33). Studies also differ in their approach to age and work and may refer to the change in work-related attitudes and motivations with age (33), or to the influence of age on the relation between work and motivation (34). Close to our interest in employment participation is a study of the role of motivation in retirement intentions (35). However, we did not include this study, because we have seen that determinants for retirement intentions differ from determinants for retirement behaviour (10). The Dutch literature provides only one study in which the relationship between a motivational determinant and employment participation of elderly workers is tested. De Wind et al. (30) investigated the relationship between work engagement and early retirement amongst 1862 employees aged 58-62 years from the STREAM cohort. They found that employees' work engagement was not related to early retirement (measured one year later).

Reference	Phenotype	Factor	Population	Findings*
De Wind et al. (30)	Early retirement	Work engagement	Employees aged 58-62	+/-

* + = positive relation between factor and outcome
 - = negative relation between factor and outcome
 +/- = no evidence

Discussion/Conclusions

In general, research on employment participation of older workers in the Netherlands is well advanced compared to some other countries. Many domains are covered well, in some domains a broad view has been applied, many scientific disciplines are involved and different research approaches have been adopted. Three cohort studies of ageing persons are available that contain data on health, work, lifestyle and social factors: LASA (36), STREAM (37) and the NIDI panel (10). Statistics Netherlands is able to provide registered data, which are very suitable for scientific



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analyses. Also, it is possible for some studies to link survey data to registered data from Statistics Netherlands.

In the Netherlands, research in the domain of employment participation often focuses on “sustainable employability”². An accepted definition of sustainable employability is (loosely translated):

Sustainable employability means that during their working life, employees continuously have the opportunities, while the conditions are available to (continue to) participate in paid employment in good health and well-being, implicating work that enables them to participate, as well as the attitude and motivation to make use of these opportunities (38).

Sustainable employability is a widely supported topic, leading to many initiatives and research funding (29). For example, in July 2014, the ministry of Employment and Social Affairs announced they will allocate 22 million Euro for projects in this field³.

Core findings

Some core findings of research of the last ten years in the domain of employment participation of older workers in the Netherlands:

- During the recession, recruitment of older workers declined substantially, while efforts to retain them were higher than before the recession.
- Simultaneously making early retirement much more unattractive and making both employees and employers pay more for disability insurance effectively discouraged early retirement and prevented ‘substitution’ via disability insurance.
- Several studies confirm that financial factors play a large role in determining the employment participation of older workers. Especially low-wage earners are affected by financial factors.
- Partners/spouses are an important factor in the decision to retire.
- Among older workers, psychosocial factors at work seem to have more effect on employment participation than physical load.
- In general, good health is positively associated with employment participation. However, good health may also be an incentive for early retirement.

Methodological issues

In the Netherlands, many research findings with regard to employment participation of older workers are derived from cohort studies, aimed at the individual. Therefore, the focus of many research results is on the individual perspective: perceived health, perceived working conditions etc. An approach with an individual perspective enables us to unravel the complex decision making with regard to retirement in the context of determinants in several domains. However, this approach also has its drawbacks. Some of these factors are not easy to assess through the individual; for example company policies with regard to older workers are often not known at the employee level, company culture is complex and not sufficiently assessable by one worker only. Moreover, employment participation of older workers is not only about individual decision making. Even if workers are highly

² In Dutch: “duurzame inzetbaarheid”.

³ See: <http://www.fcb.nl/jeugd/zorg/actueel/nieuws/660-ministerie-szw-subsidieert-duurzame-inzetbaarheid/>



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motivated to continue working, several factors may prevent them from employment participation. Sometimes these factors are not known by the individual. For example, one of these factors might be the attitude of the employers. To include the employers' perspective, studies are needed that contain data at the employers' level as well as the individual level.

Research aimed at employment participation may have different outcome measures: early retirement, disability, unemployment, return to work, and working longer. Studies could also have a combination of these phenotypes. In the Netherlands most research in the field of employment participation of older workers is aimed at early retirement. However, many research is available on exit from work into unemployment or disability, but these studies are not limited to older workers. It is unclear if determinants for exit from work among all age groups are different than those for older workers. Studies about return to work often concern rehabilitation after a period of sickness absence or disability, and are mostly aimed at all age groups.

Research needs in the Netherlands

As we concluded above, many research findings in the Netherlands are derived from cohort studies. As a consequence determinants are measured at the personal level and are based on the individual perspective. Data on the context are lacking or less reliable; the latter because workers are not the best source to derive this information from. For example, in general workers are not aware of the company policies with regard to older workers. Research in the field of employment participation would gain from a more integral approach, in which data from employers and employees are combined, ideally also including data on the macro-economic level.

Although the Dutch literature on HRM interventions aimed at employment participation of older workers is very comprehensive, only very few studies are evidence based. This might partly be due to a lack of proper methods to evaluate interventions. In the scientific literature with regard to occupational health the Randomized Controlled Trial (RCT) is the norm. However, in HRM research it is very hard to meet the conditions required for an RCT. Therefore, it might be helpful for evaluation research, not only in the field of employment participation or HRM, to develop new methods to evaluate interventions.

Also in some other domains, specific research gaps were found: no studies were found on the impact of the age discrimination law on employment participation of older workers. No studies were found on the influence of gender, ethnicity, income, profession etc. There is a lack of studies with motivation as a determinant of employment participation. No studies were found on the effects of health-related behaviour on employment participation of older workers. Studies that are available on the topic are not age-specific.



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