



# **Predictors of early retirement: a Dutch prospective cohort study**

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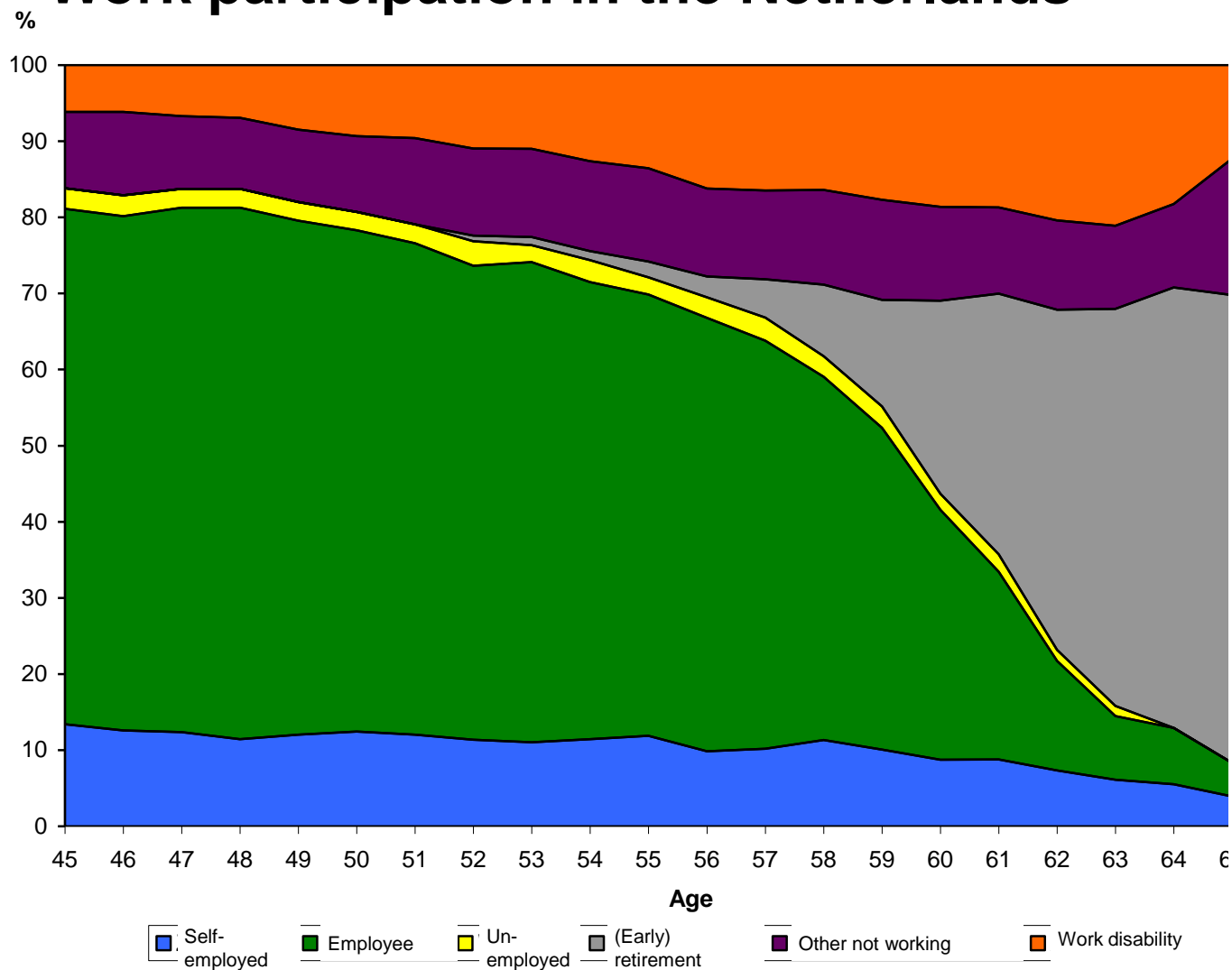
## Introduction

- Work force is ageing
- Shortage of workers expected
- Many workers retire before official retirement age
- Rising ratio of retired elderly to the active working population induces pressure on the public finances
- In Europe, work participation is relatively low above age 55\*
  - 25-54 years: 78%
  - 55-64 years: 46%

\* Eurostat 2010

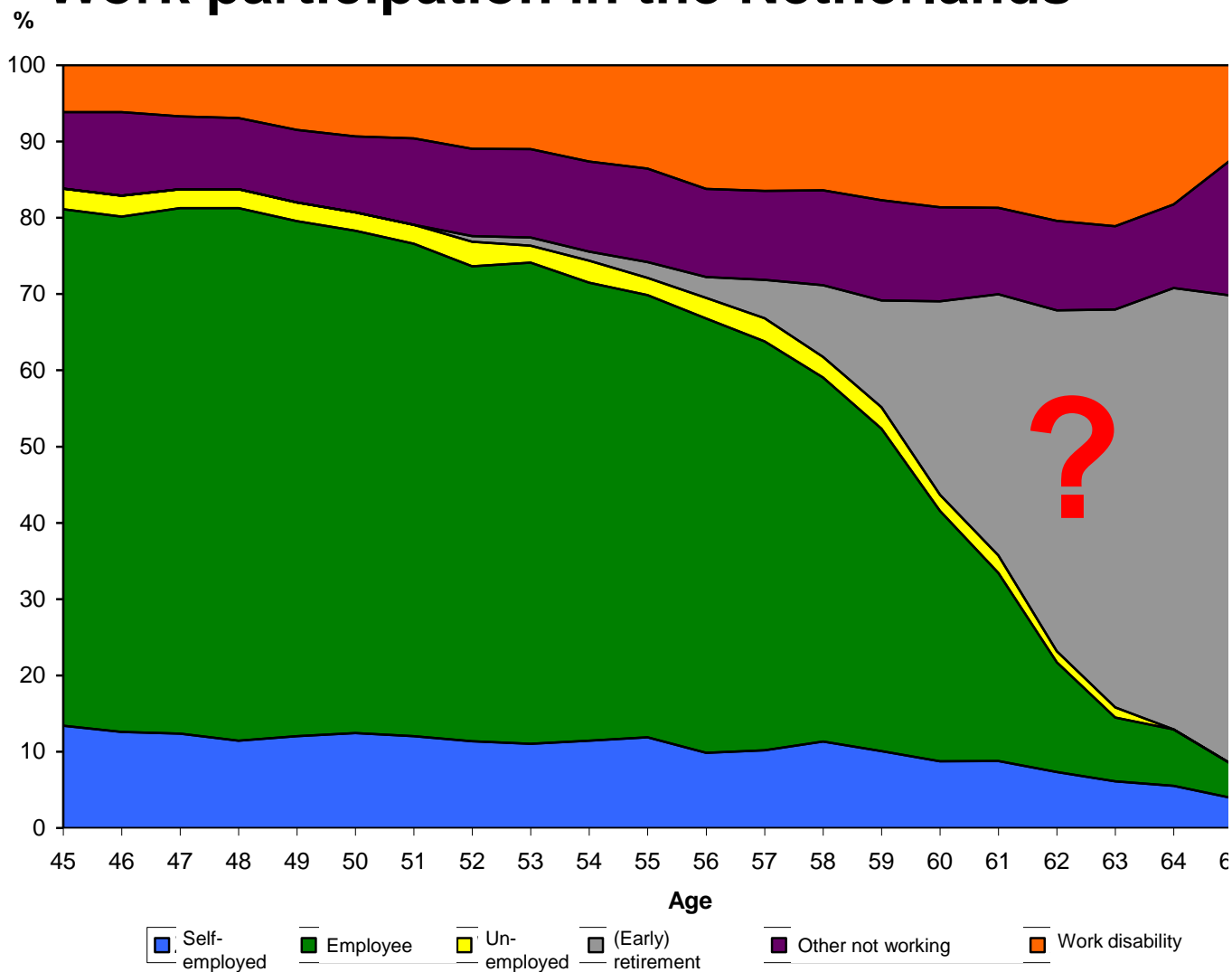


## Work participation in the Netherlands





## Work participation in the Netherlands





# Introduction

- **Longitudinal studies on *actual* early retirement**
  - **Health**
    - Poor physical or mental health<sup>1, 5, 6, 7</sup>
  - **Work characteristics**
    - High physical demands, high work pressure, low job satisfaction<sup>1</sup>, job stress, job control<sup>5</sup>
    - Appreciation, support from supervisor<sup>2</sup>, challenge<sup>3, 7</sup>
  - **Social factors**
    - Support from partner<sup>2</sup>
  - **Financial factors**
    - Lower replacement rate<sup>2</sup>, lower (perceived) pension<sup>4, 7</sup>, dependant children<sup>7</sup>



## Introduction

- › Despite current debate on prolonging working life, relatively few longitudinal studies have been published
- › Most studies focus on limited set of factors
- › Changes in risk factors barely addressed



## Objective



**To identify predictors of early retirement in employees**

- › Predictors
- › Changes in these predictors



## Methods

- ***Netherlands Working Conditions Cohort Study***
  - Employees aged 15-64 years
  - 2007: T1, baseline
  - 2008: T2, follow up 1
  - 2009: T3, follow up 2
- ***Present study***
  - Selection of those aged 55-63 years at T1
- ***Measurement***
  - Self-reported questionnaires
    - Employment status
    - Health-related factors
    - Work-related factors
    - Social factors
    - Financial factors







## Predictors

### Health

Longstanding health problem and limitations  
Emotional exhaustion  
Perceived general health

### Work characteristics

Period in same job  
Evening and night work  
Physical work load  
Psychosocial factors: autonomy, (emotional)  
demands, mental demands  
Social support colleagues, supervisor  
Enterprise restructuring  
Satisfaction with career opportunities  
Satisfaction with opportunity to work part-time

### Social factors

Partner and his/her employment status

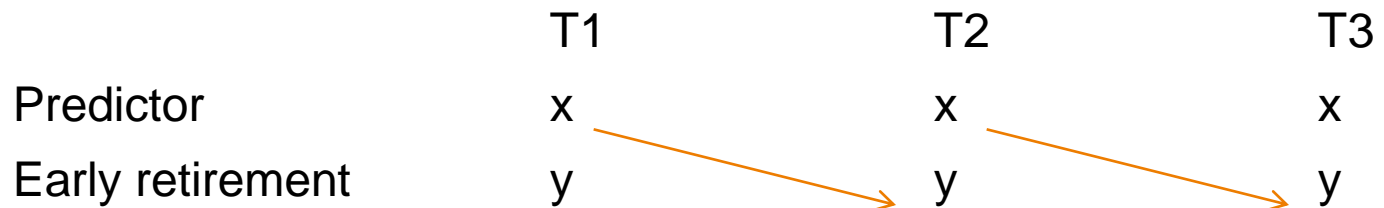
### Financial factors

Satisfaction with salary  
Satisfaction with pension regulations



## Statistical analyses

- **Predictors:** Generalized estimating equation (12-month time-lag model)



- **Change in predictors:** Logistic regression analysis





## Results

- **Participants**

- T1 (2007): n=2,845 (100%)
- T2 (2008): n=1,829 (64%)
- T3 (2009): n=1,501 (53%)

- **Persons lost to follow-up**

- Older, more often low educated, worse health

- **200 employees retired early**

- T2: n=99
- T3: n=101



## Predictors early retirement (GEE)

### Health

Longstanding health problem and limitations  
Emotional exhaustion  
Perceived general health

### Work characteristics

**Period in same job\***  
**Evening and night work\***  
Physical work load  
Psychosocial factors: autonomy, (emotional)  
**job demands\*, mental demands\***  
Social support colleagues, supervisor  
Enterprise restructuring  
Satisfaction with career opportunities  
Satisfaction with opportunity to work part-time

### Social factors

**Partner and his/her employment status\***

### Financial factors

**Satisfaction with salary\***  
**Satisfaction with pension regulations\***



## Predictors early retirement (GEE)

		%	Univariate OR (95%CI)	Multivariate ** OR (95%CI)
<b>Time period employed in present job</b>	0-1 years	10	1.00	
	2-4 years	14	0.84 (0.43-1.66)	
	5-9 years	24	0.52 (0.27-1.02)	
	10-19 years	23	1.54 (0.87-2.74)	
	20 years or longer	29	1.87* (1.08-3.25)	
<b>Evening and night work</b>	No	62	1.00	
	Sometimes	23	0.56* (0.36-0.86)	
	Frequently	15	0.84 (0.54-1.33)	
<b>Job demands</b>	Low	22	1.00	
	Intermediate	60	0.58* (0.42-0.82)	
	High	18	0.68 (0.44-1.06)	
<b>Mental demands</b>	Low	26	1.00	
	Intermediate	41	0.68* (0.48-0.96)	
	High	33	0.61* (0.42-0.89)	
<b>Partner</b>	Paid job	52	1.00	
	No paid job	32	1.57* (1.15-2.14)	
	No partner	15	0.92 (0.58-1.48)	
<b>Satisfaction with salary</b>	High	33	1.00	
	Intermediate	42	0.64* (0.46-0.89)	
	Low	22	0.70 (0.47-1.04)	
	No answer	3	1.24 (0.62-2.48)	

\* p<0.05



## Predictors early retirement (GEE)

		%	Univariate OR (95%CI)	Multivariate ** OR (95%CI)
<b>Time period employed in present job</b>	0-1 years	10	1.00	1.00
	2-4 years	14	0.84 (0.43-1.66)	0.72 (0.36-1.44)
	5-9 years	24	0.52 (0.27-1.02)	0.40* (0.20-0.79)
	10-19 years	23	1.54 (0.87-2.74)	1.46 (0.82-2.60)
	20 years or longer	29	1.87* (1.08-3.25)	1.69# (0.97-2.94)
<b>Evening and night work</b>	No	62	1.00	-
	Sometimes	23	0.56* (0.36-0.86)	-
	Frequently	15	0.84 (0.54-1.33)	-
<b>Job demands</b>	Low	22	1.00	-
	Intermediate	60	0.58* (0.42-0.82)	-
	High	18	0.68 (0.44-1.06)	-
<b>Mental demands</b>	Low	26	1.00	1.00
	Intermediate	41	0.68* (0.48-0.96)	0.72 (0.50-1.04)
	High	33	0.61* (0.42-0.89)	0.59* (0.39-0.88)
<b>Partner</b>	Paid job	52	1.00	-
	No paid job	32	1.57* (1.15-2.14)	-
	No partner	15	0.92 (0.58-1.48)	-
<b>Satisfaction with salary</b>	High	33	1.00	1.00
	Intermediate	42	0.64* (0.46-0.89)	0.60* (0.42-0.87)
	Low	22	0.70 (0.47-1.04)	0.71 (0.47-1.07)
	No answer	3	1.24 (0.62-2.48)	0.17 (0.02-1.30)

\* p<0.05, # p=0.06

\*\* adjusted for age and gender



# Changes in predictors and early retirement

## Health

Longstanding health problem and limitations  
Emotional exhaustion  
Perceived general health

## Work characteristics

Period in same job  
Evening and night work  
Physical work load  
Psychosocial factors: autonomy, (emotional)  
**Job demands\***, mental demands  
**Social support colleagues\***, supervisor  
**Enterprise restructuring**  
Satisfaction with career opportunities  
Satisfaction with opportunity to work part-time

## Social factors

Partner and his/her employment status

## Financial factors

Satisfaction with salary  
Satisfaction with pension regulations



## Change in predictors and early retirement

		%	Univariate OR (95%CI)	Multivariate ** OR (95%CI)
<b>Job demands</b>	No change	29	1.00	1.00
	Increase	33	1.41 (0.77-2.60)	1.89 (0.93-3.85)
	Decrease	38	2.01* (1.15-3.54)	2.85* (1.46-5.56)
<b>Social support from colleagues</b>	No change	35	1.00	1.00
	Increase	31	0.55* (0.30-0.99)	0.49* (0.26-0.93)
	Decrease	34	0.97 (0.59-1.60)	0.96 (0.56-1.66)
<b>Restructuring in past 12 months</b>	From no to yes	10	1.60 (0.90-2.87)	2.54* (1.34-4.79)
	Other	90	1.00	1.00

\*  $p < 0.05$

\*\* adjusted for age and gender





## Health and early retirement

Relation between health and early retirement (GEE)

	%	Univariate OR (95%CI)	
Longstanding health cond.			
None	49	1.00	
Yes, no work limitations	25	1.11	(0.78-1.57)
Yes, and work limitations	26	0.88	(0.60-1.27)
Poor perceived health	12	0.85	(0.53-1.36)
Emotional exhaustion	12	1.11	(0.71-1.72)

Relation between *changes* in health and early retirement

	%	Univariate OR (95%CI)	
Longstanding health problem that limits work			
From no to yes	11	1.21	(0.64-2.27)
Other	89	1.00	
Poor general health			
From no to yes	6	1.33	(0.59-2.97)
Other	94	1.00	
Emotional exhaustion			
From no to yes	5	0.91	(0.36-2.31)
Other	95	1.00	



## Discussion and conclusion

- **Limitations**
  - Selective loss to follow up
  - Short follow-up period
  - Relatively few persons retired



## Discussion and conclusion

- **Limitations**

- Selective loss to follow up
- Short follow-up period
- Relatively few persons retired

- **Conclusion**

- Work-related factors, sudden changes in these factors, and financial factors predict early retirement in employees
- Challenging work, a healthy social climate at work, and financial incentives might support the prolongation of working life



Thank you!