Educational differences in

WORKING LIFE EXPECTANCY

in the Netherlands

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Life course models needed

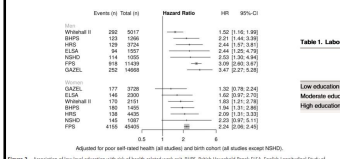


Figure 3 Association of low level education with risk of health-related work exit. BHPS, British Household Panel; ELSA, English Longitudinal Study of Ageing; FPS, Finnish Public Sector Study; GAZEL, Electricit é de France-Gaz De France; HRS, Health and Retirement Study; NSHD, National Survey of Health and Development.

Carr E, *et al*. *Occup Environ Med* 2018;**0**:1–9. doi:10.1136/oemed-2017-104619

Table 1. Labour force exit through different pathways stratified by educational level (n = 14708).

	Disability benefits		Unemployment	
	n	%	n	%
Low education (n = 3509)	138	3.9	396	11.3
Moderate education (n = 7268)	167	2.3	565	7.8
High education (n = 3991)	83	2.1	270	6.8

Citation: Robroek SJW, Rongen A, Arts CH, Otten FWH, Burdorf A, Schuring M (2015) Educational Inequalities in Exit from Paid Employment among Dutch Workers: The Influence of Health, Lifestyle and Work. PLoS ONE 10(9): e0134867. doi:10.1371/journal.pone.0134867

How large is the impact over the working life course?

Working life expectancy

Time individuals expected to spend in employment until he/she leaves the labour force
- population level estimate!

Several models available, what we add:
- Focus on multiple exit pathways and educational inequalities
- Include re-entering paid employment
- Working life course perspective (16-66 years)

AIM

Explore educational differences in working life expectancy

and working years lost through disability benefits and other non-employment states

Methods

Data from Statistics Netherlands (SSB, tax registries) in 2001-2015
n=4,999,947 aged 16-66 years

Monthly transition probabilities
- Exit from paid employment
  - Disability benefits
  - Unemployment
  - No income
  - Student
  - Retirement
  - Emigration
  - Death
- Re-enter paid-employment

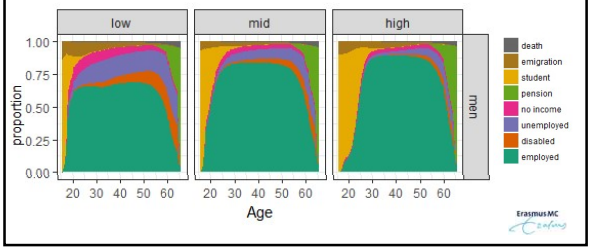
Methods

Several statistical packages for the analyses of multistate models (R):
- Msm (intermittently-observed data)
- Mstate (completely-observed data)

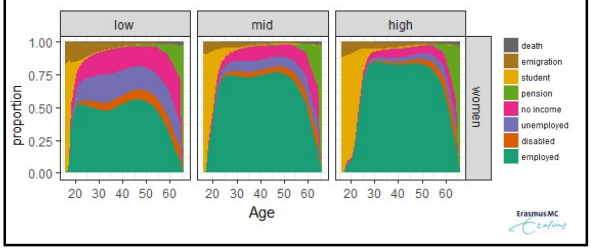
Using 'mstate'
→ Based on multistate Cox regression method
→ Markov assumption
→ 95%CI using bootstrap (100 replicates)
→ Absorbing state: 66 years
→ Stratified by gender and educational level

Administrative complexities:
Retirement <40 yrs?
Distinguish unemployment/no income: 1 month 'no income', thereafter unemployed?

Proportions in (non-)employment states



Proportions in (non-)employment states



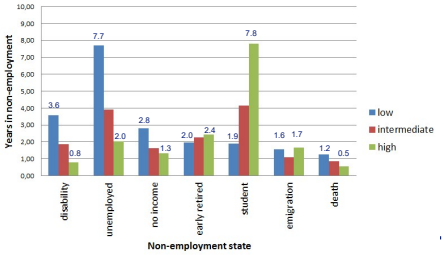
Working life expectancy at age 16

Educational level	WLE Men, age 16 Years (95%CI)	WLE Women, age 16 Years (95%CI)
Low	29.21 (29.08-29.32)	22.95 (22.52-23.27)
Intermediate	34.24 (34.08-34.42)	31.21 (31.08-31.32)
High	33.38 (33.30-33.51)	32.45 (32.37-32.59)
Difference High-Low	4.17	9.50

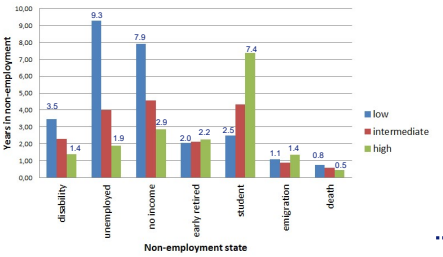
Working life expectancy at age 50

Educational level	WLE Men, age 50 Years (95%CI)	WLE Women, age 50 Years (95%CI)
Low	8.35 (8.34-8.37)	7.02 (7.00-7.04)
Intermediate	9.80 (9.79-9.82)	9.06 (9.04-9.08)
High	10.87 (10.85-10.89)	10.38 (10.35-10.40)
Difference High-Low	2.52	3.36

Where do we lose working years? (M, 16)



Where do we lose working years? (F, 16)



Wrap up

•Large educational inequalities in participation in paid employment

•Considerable amount of lost working time is health-related (disability – up to 3.6 years)

•A life course perspective on work and health adds to 'traditional' studies

Future research

-Changes in WLE over time

-Influence of policy changes on working life expectancy (e.g. prolonging retirement age)

-Health impact assessment and working life expectancy

-Cross-national differences in working life expectancy

Thank you for your attention!

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