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**STRENUOUS PHYSICAL OR MENTAL WORK: EARLY EXIT OR STAY
AT WORK IN GOOD OR POOR HEALTH**

› BACKGROUND

- It is not only important that workers are able to work till they reach the retirement age, but it is also important that they stay in good health
- Previous research has already shown determinants that cause exit from work (poor health, poor working conditions, poor health behaviors)
- Older workers (60+) with strenuous work may particularly struggle to reach the retirement age in good health

› **STUDY AIM**

Which factors, among older workers with strenuous physical or mental work are linked to stay at work in good health, to stay at work in poor health and to early exit from work

› **STUDY POPULATION**

STREAM (n=21,856)

- Study on Transitions in Employment, Ability and Motivation
- 45-64 years at baseline
- Questionnaires: sociodemographic, work, and health factors; annually 2010-2013 and 2015-2017; bi-annually 2017-2021

Current study (n=3,941)

- Aged 60 years at one of the measurement waves
- Working at age 60
- For whom it was clear how they exited employment



› STRENUOUS PHYSICAL WORK

› Three questions:

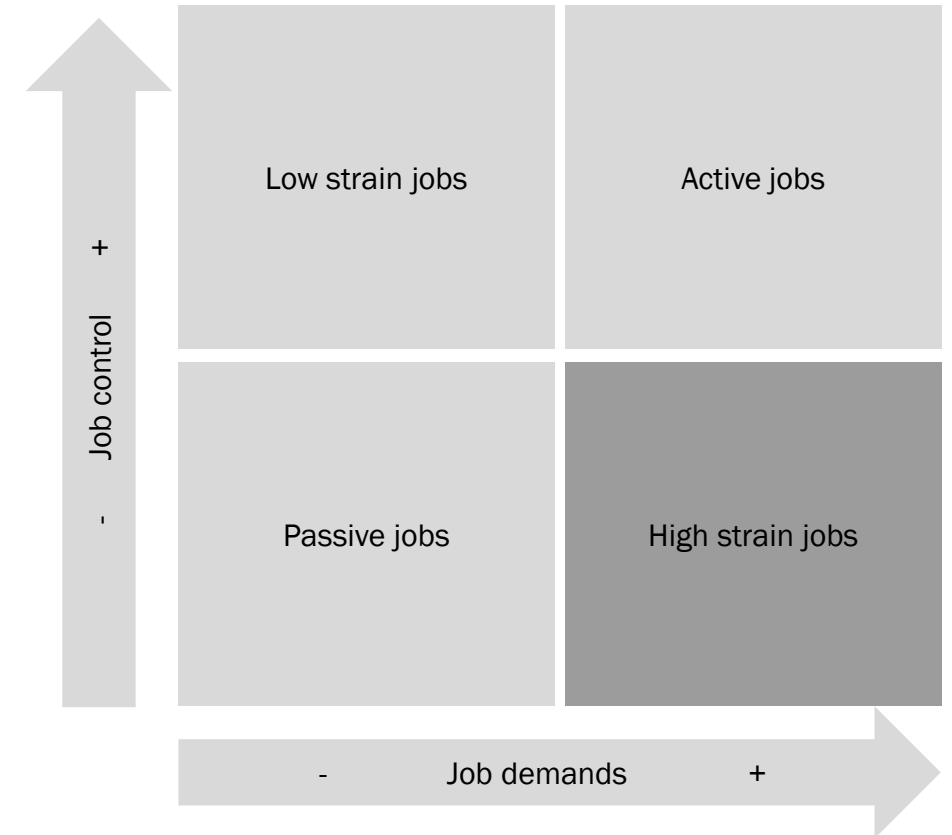
1. Do you do work that requires a lot of force or do you use tools and equipment in your work that require a lot of force?
2. Do you work in an uncomfortable working position?
3. Do you work kneeling or squatting for long periods of time?

Often or always to one of these questions:

strenuous physical work



STRENUOUS MENTAL WORK



High demands + low control = High strain jobs is:

strenuous mental work

› OUTCOME MEASURE

1. Working until retirement age in good health

- Self-rated health at time of retirement 'excellent', 'very good', or 'good'

2. Working until retirement age in poor health

- Self-rated health at time of retirement 'fair' or 'poor'

3. Premature work exit

- Unemployment, disability pension, economic inactivity



› DETERMINANTS

Sociodemographic factors

- Sex, educational level, financial situation



Work related factors

- Social support, nightwork, skills (mis)match



Personal characteristics

- Mastery, engagement, developmental proactivity



Health-related factors

- Self-rated health, body mass index, sickness absence



All determinants were measured at age 60.

› **STATISTICAL ANALYSES**

- **Descriptive statistics**

- Comparison of those with strenuous physical work, strenuous mental work and no strenuous work

- **Multinomial regression analyses**

- Association sociodemographic, work, personal and health related factors at age 60 and type of work exit
 - Separately for those with strenuous physical and strenuous mental work
 - Reference category: working until the retirement age in good health

- ***What are the characteristics of 60 years old workers with strenuous physical or mental work?***
- ***How many work till the retirement age, in good or poor health, compared to those without strenuous work***

RESULTS

	No strenuous work (n=2,979)	Strenuous physical work (n=654)	Strenuous mental work (n=465)
Sex, %			
Male	60.7	50.2	45.2
Female	39.3	49.8	54.8
Educational level, %			
High	39.5	13.8	39.7
Intermediate	50.0	55.8	46.2
Low	10.5	→ 30.4	14.1
Financial situation, %			
Yes	45.4	35.5	34.9
No	40.3	48.7	46.6
Don't know	14.3	15.8	18.5
Strenuous physical work, %			
No	N.A.	N.A.	62.4
Yes	N.A.	N.A.	37.6
Strenuous mental work, %			
No	N.A.	73.2	N.A.
Yes	N.A.	26.8	N.A.
Social support, M(SD)	3.46 (0.84)	3.36 (0.87)	3.29 (0.77)
Nightwork, %			
No	85.9	69.1	71.6
Yes	14.1	→ 30.9	→ 28.4
Work accommodation, %			
No	65.9	69.2	58.1
Yes	34.1	30.8	41.9
Engagement, M(SD)	4.45 (1.19)	4.32 (1.41)	3.93 (1.41)
Mastery, M(SD)	3.79 (0.64)	3.62 (0.71)	3.53 (0.72)
Developmental proactivity, M(SD)	3.81 (0.58)	3.71 (0.61)	3.83 (0.66)
Match skills and work, %			
Good	79.5	72.2	68.0
Reasonable	16.6	20.4	24.6
Poor	3.9	7.4	7.3
Self-rated health			
Good	86.2	77.6	73.5
Poor	13.8	→ 22.4	→ 26.5
BMI, %			
Healthy weight	33.6	32.0	34.9
Overweight	48.4	46.6	42.6
Obesity	18.0	21.4	22.4
Sickness absence, M(SD)	5.13 (14.7)	→ 8.60 (19.8)	→ 9.13 (20.7)

› RESULTS

	No strenuous work (n=2,979)	Strenuous physical work (n=654)	Strenuous mental work (n=465)
	% (n)	% (n)	% (n)
Worked until the retirement age in good health	52.9% (1,577)	43.4% (284)	39.1% (182)
Worked until the retirement age in poor health	8.5% (252)	10.4% (68)	12.0% (56)
Premature employment exit	38.6% (1,150)	46.2% (302)	48.8% (227)

Which factors are associated with early exit or stay at work in poor health among 60-year-old workers with strenuous physical or mental work

› RESULTS REGRESSION ANALYSES

Working until the retirement age in poor health			Premature work exit	
	Increased risk	Decreased risk	Increased risk	Decreased risk
Strenuous physical work	Obesity	-	-	-
	Sickness absence	-	Sickness absence	-
		More mastery	-	More mastery
			Female sex	-
Strenuous mental work				Poor financial situation
				More engagement
	Obesity	-	-	-
		More mastery	-	More mastery
		Higher developmental proactivity	-	-
			-	-
			Sickness absence	-
				Poor financial situation

*Analyses were repeated with 600 additional respondents. The new percentages and estimates of the regression analyses are generally the same and do not change the conclusions of the study. Only the association between higher developmental proactivity and working until the retirement age in poor health among those with strenuous mental work was no longer significant.

› MAIN FINDINGS

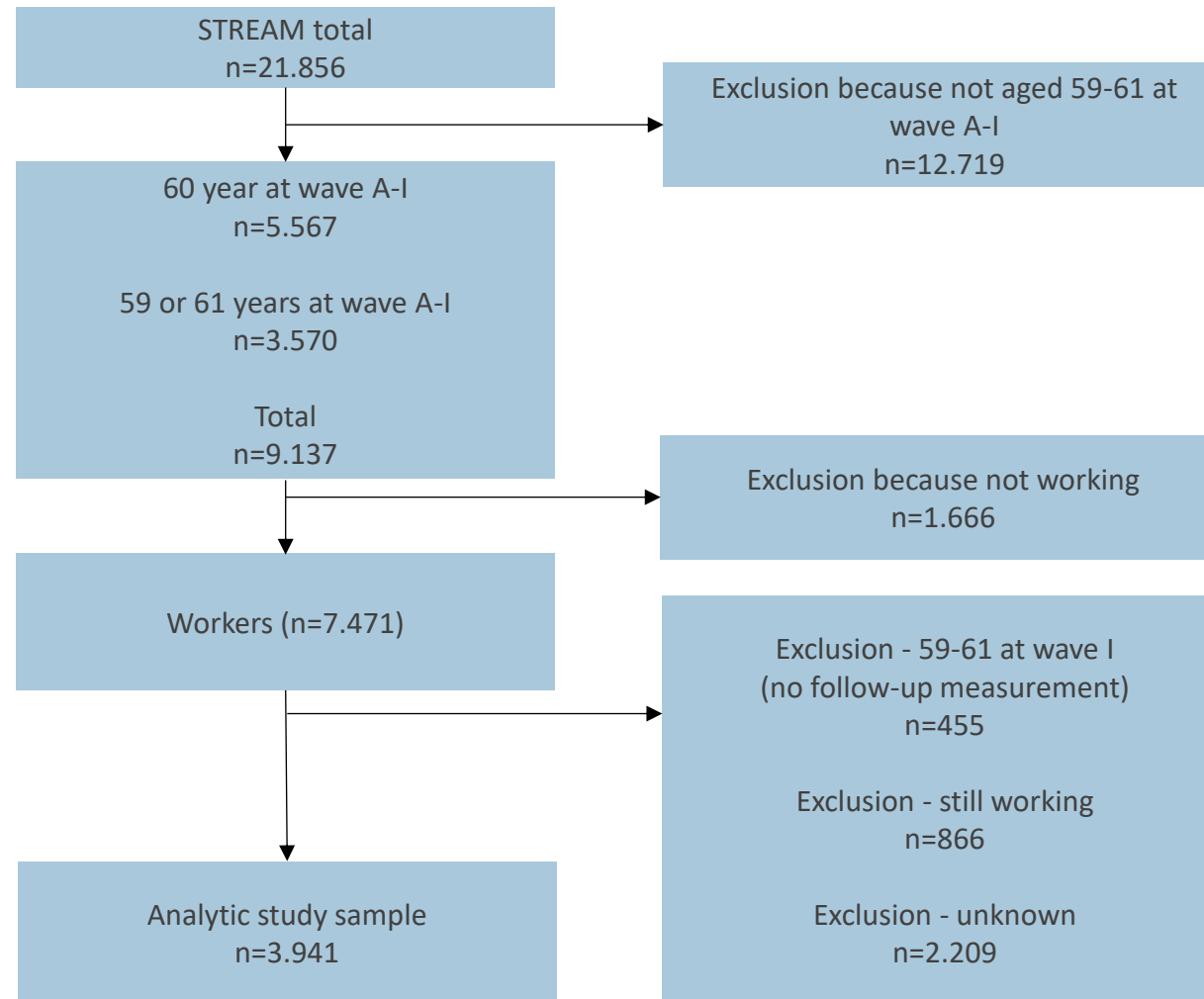
- **Premature work exit:** 46% (*strenuous physical work*) and 49% (*strenuous mental work*)
- **Works until retirement age in poor health:** 10% (*strenuous physical work*) and 12% (*strenuous mental work*)
 - Study sample not representative but findings on premature work exit in line with Statistics Netherlands
- **Poor health status** increased the likelihood of both negative outcomes
 - In line with research in the general population and workers with chronic diseases
- **Poor financial situation** decreased the likelihood of premature work exit
 - Private wealth is associated with early retirement
- **Higher levels of mastery** decreased the likelihood of both negative outcomes
 - In line with research among older workers with a chronic disease
 - Other traits like developmental proactivity and engagement also showed some positive effects

*Analyses were repeated with 600 additional respondents. The new percentages and estimates of the regression analyses are generally the same and do not change the conclusions of the study. Only the association between higher developmental proactivity and working until the retirement age in poor health among those with strenuous mental work was no longer significant.

› CONCLUSION

Health, mastery and workers' financial situation play a major role in whether workers with strenuous physical or mental work, work until the retirement age and whether this is in good or poor health

› SUPPLEMENT FIGURE 1



› SUPPLEMENT TABLE 1 – STRENUOUS PHYSICAL WORK

	Multivariate	Multivariate
	Worked until statutory retirement age but in poor health	Premature employment exit
	OR (95% CI)	OR (95% CI)
Sex		
Male	Ref	Ref
Female	N.S.	1.56 (1.04, 2.35)
Educational level		
High	Ref	Ref
Intermediate	N.S.	N.S.
Low	N.S.	N.S.
Financial situation		
Yes	Ref	Ref
No	N.S.	0.34 (0.22, 0.53)
Don't know	N.S.	0.52 (0.29, 0.91)
Strenuous mental work		
No	Ref	Ref
Yes	N.S.	N.S.
Social support	N.S.	N.S.
Nightwork		
No	Ref	Ref
Yes	N.S.	N.S.
Work accommodation	N.S.	
No	Ref	Ref
Yes	N.S.	N.S.
Engagement	N.S.	0.83 (0.69, 0.99)
Mastery	0.51 (0.32, 0.82)	0.63 (0.46, 0.85)
Developmental proactivity	N.S.	N.S.
Match skills and work		
Good	Ref	Ref
Reasonable	N.S.	N.S.
Poor	N.S.	N.S.
BMI		
Healthy weight	Ref	Ref
Overweight	N.S.	N.S.
Obesity	3.01 (1.34, 6.73)	N.S.
Sickness absence	1.03 (1.01, 1.05)	1.04 (1.02, 1.06)

› SUPPLEMENT TABLE 2 – STRENUOUS MENTAL WORK

	Multivariate	Multivariate
	Worked until statutory retirement age but in poor health	Premature employment exit
	OR (95% CI)	OR (95% CI)
Sex		
Male	Ref	Ref
Female	N.S.	N.S.
Educational level		
High	Ref	Ref
Intermediate	N.S.	N.S.
Low	N.S.	N.S.
Financial situation		
Yes	Ref	Ref
No	N.S.	0.35 (0.21, 0.58)
Don't know	N.S.	0.46 (0.25, 0.86)
Strenuous physical work		
No	Ref	Ref
Yes	N.S.	N.S.
Social support	N.S.	N.S.
Nightwork		
No	Ref	Ref
Yes	N.S.	N.S.
Work accommodation	N.S.	
No	Ref	Ref
Yes	0.41 (0.19, 0.88)	N.S.
Engagement	N.S.	N.S.
Mastery	0.38 (0.22, 0.63)	0.65 (0.46, 0.92)
Developmental proactivity	0.54 (0.30, 0.96)	N.S.
Match skills and work		
Good	Ref	Ref
Reasonable	N.S.	N.S.
Poor	N.S.	N.S.
BMI		
Healthy weight	Ref	Ref
Overweight	N.S.	N.S.
Obesity	4.41 (1.76, 11.1)	N.S.
Sickness absence	N.S.	1.03 (1.01, 1.05)

*Analyses were repeated with 600 additional respondents. The new percentages and estimates of the regression analyses are generally the same and do not change the conclusions of the study. Only the association between higher developmental proactivity and working until the retirement age in poor health among those with strenuous mental work was no longer significant.