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Type of Employment and Sickness Absence: A Prospective Swedish Twin Study

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The association between part-time and temporary employment and sickness absence: a prospective Swedish twin study

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Background: Sickness absence (SA) is becoming a major economic problem in many countries. Our aim was to investigate whether type of employment, including temporary employment or part-time employment, is associated with SA while controlling for familial factors (genetic and shared environment). Differences between

Background – Sickness absence (SA)

- A major problem for the society and the individual
 - Increased in Sweden, in recent years
 - Duration SA spells is increasing
 - Risk factors related to work environment
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Background – Type of employment

- Full-time permanent employment
- Temporary employment
→ Limited contract
- Part-time employment
→ <100% of full time
- Self-employment
→ Own business or freelancing



Background – Familial factors

- Familial factors
 - Genetics
 - Shared environment
- Adjusted for familial factors using a twin design
 - If twin model shows a change in the estimates then familial factors play a role



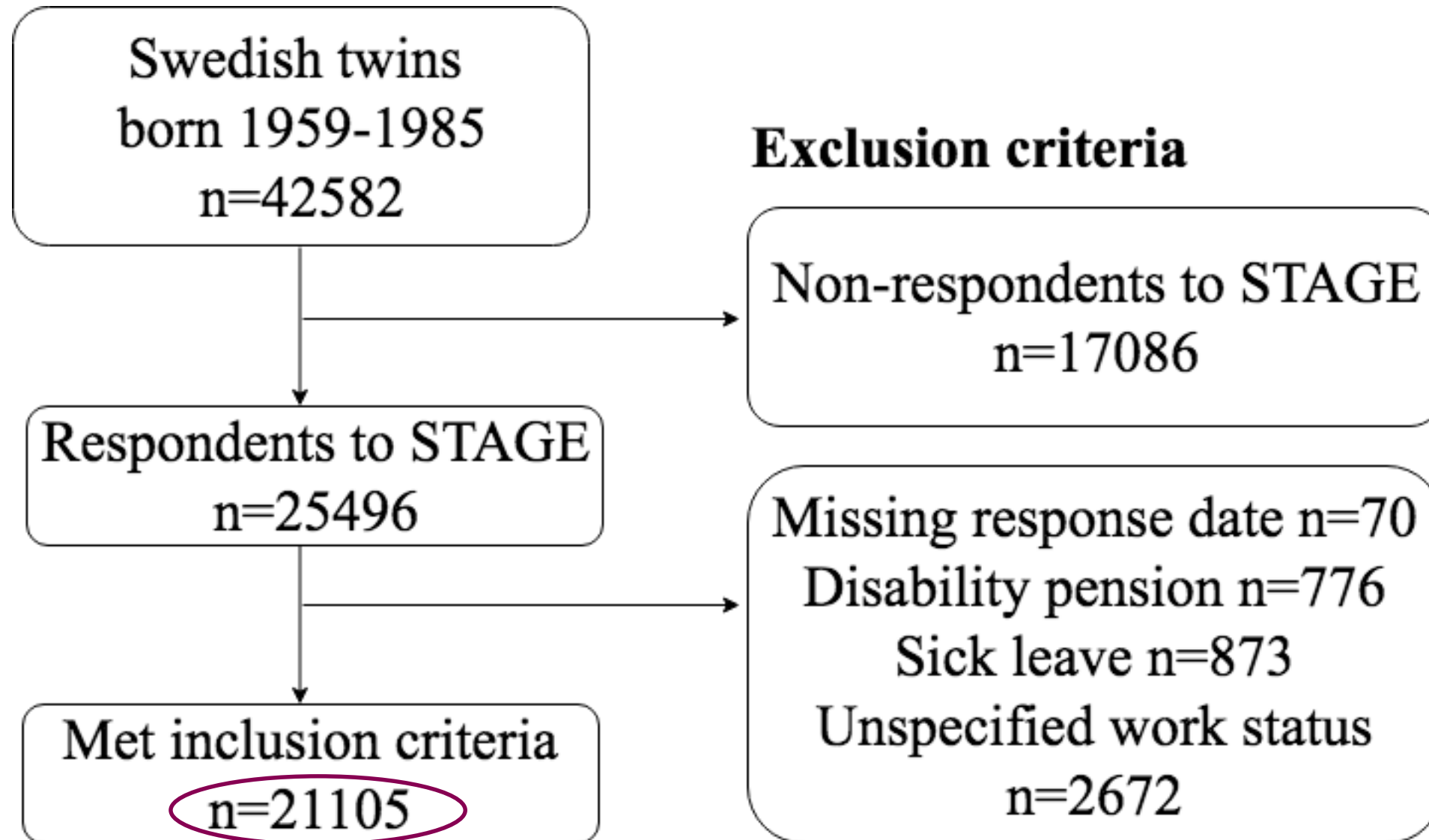
Research question

- Is type of employment associated with sickness absence?
 - Stratified on gender
 - Adjusted for familial factors
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Source material

- Swedish Twin project Of Disability pension and Sickness absence (STODS)
 - Twins born between 1959 and 1985
 - Sub-study: Study of Twin Adults: Genes and Environment (STAGE)
 - Web-based survey in 2005
 - Linked to register data
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Study population



Exposure: Type of employment

- Question in STAGE:
 - *How have you mainly worked during the last three years?*
 - Full-time permanent (reference group)
 - Part-time permanent
 - Temporary, either full-time or part-time
 - Self-employed
 - Those that had not worked were excluded
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Outcome: Sickness absence

- Eligible for SA: All individuals in Sweden >16 years, with income from work or unemployment benefits
 - Register data from MiDAS register (National Social Insurance Agency)
 - Sickness absence of >14 days
 - Follow-up until end of 2013
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Statistical analyses

- Logistic regression
 - Clustered robust standard error adjustment for non-independence of twin pairs
 - Stratified by sex
 - Co-twin control analyses based on discordant twins
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Descriptive statistics

	Total	
	n	(%)
Type of employment		
Employed full-time	11190	(71.1)
Employed part-time	1986	(12.6)
Temporary employment	1613	(10.2)
Self-employed	956	(6.1)
Sex		
Men	9948	(47.1)
Women	11157	(52.9)
Age (mean (SD))	33.4	(7.7)

Associations between type of employment and sickness absence

	Crude		Adjusted	
	OR	(95% CI)	OR	(95% CI)
Employed full-time	ref			
Employed part-time	1.39	(1.26-1.53)	0.84	(0.74-0.95)
Temporary employment	1.39	(1.24-1.54)	1.21	(1.04-1.40)
Self-employed	0.81	(0.70-0.94)	0.77	(0.62-0.94)

Adjusted: Sex, age, socioeconomic position, marital status, job demands, control, support, self-rated health, previous sickness absence.

Women: Associations between type of employment and sickness absence

	Crude		Adjusted	
	OR	(95% CI)	OR	(95% CI)
Employed full-time	ref			
Employed part-time	0.94	(0.85-1.05)	0.82	(0.73-0.94)
Temporary employment	1.18	(1.03-1.35)	1.10	(0.93-1.32)
Self-employed	0.68	(0.54-0.85)	0.65	(0.47-0.90)

Adjusted: Sex, age, socioeconomic position, marital status, job demands, control, support, self-rated health, previous sickness absence.

Men: Associations between type of employment and sickness absence

	Crude		Adjusted	
	OR	(95% CI)	OR	(95% CI)
Employed full-time	ref			
Employed part-time	1.16	(0.82-1.62)	1.26	(0.85-1.88)
Temporary employment	1.21	(1.00-1.46)	1.33	(1.03-1.72)
Self-employed	1.03	(0.85-1.25)	0.85	(0.66-1.10)

Adjusted: Sex, age, socioeconomic position, marital status, job demands, control, support, self-rated health, previous sickness absence.

Adjusted for familial factors

	Sex & age adjusted*		Co-twin all (MZ+DZ [^])	
	OR	(95% CI)	OR	(95% CI)
Employed full-time	ref			
Employed full-time	0.97	(0.87-1.07)	0.99	(0.74-1.31)
Temporary employment	1.26	(1.13-1.42)	1.34	(0.94-1.92)
Self-employed	0.84	(0.72-0.98)	0.86	(0.55-1.33)

*Whole sample adjusted for age and sex

[^]DZ= Same sex dizygotic twins

Conclusions

- Temporary employment increased the risk of SA
 - Psychosocial stress leads to poor health?
 - Poor working conditions?
 - Part-time employment decreased the risk of SA
 - More recovery time from work?
 - Better work-life balance?
 - Health-selection?
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Conclusions

- Self-employment decreased risk of SA
 - Better control over work environment?
 - Self-employed unwilling be sickness absent?
 - No influence of familial factors
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THANK YOU!

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