

Family and job related explanations of gender  
differences in sickness absence:  
A review of the evidence

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# Outline:

- How universal is the gender difference in sickness absence? Cross-national evidence
- Causes: Situational and predispositional factors
- Do women have less healthy jobs?
- Do women and men react differently to job characteristics?
- Home demands/family structure
- Work-Family problems
- Predispositional explanations

# Cross-national evidence 1: Third European Survey on Working Conditions (ESWC). (Gimeno et al. 2004)

**Table 1** Age adjusted percentage of employees with sickness absence\* in each of the 15 member states of the European Union, 2000

Country	n	Total		Men		Women	
		%	(95% CI)	%	(95% CI)	%	(95% CI)
Greece	496	6.7	(4.8 to 9.3)	8.9	(6.1 to 12.8)	3.5	(1.7 to 7.1)
Ireland	1078	8.3	(6.8 to 10.1)	9.2	(7.1 to 12.0)	7.3	(5.4 to 9.9)
Portugal	1011	8.4	(6.9 to 10.3)	10.1	(7.7 to 13.1)	6.8	(5.0 to 9.3)
Italy	1025	8.5	(6.9 to 10.4)	9.9	(7.8 to 12.5)	6.4	(4.4 to 9.2)
United Kingdom	1212	11.7	(10.0 to 13.7)	13.3	(10.9 to 16.2)	10.0	(7.8 to 12.7)
Spain	1032	11.8	(10.0 to 13.9)	13.5	(11.1 to 16.2)	8.6	(6.1 to 12.1)
Denmark	1221	12.4	(10.7 to 14.4)	12.9	(10.4 to 15.8)	12.0	(9.7 to 14.8)
France	1212	14.3	(12.4 to 16.4)	15.4	(12.8 to 18.3)	12.9	(10.4 to 16.0)
Belgium	1201	15.6	(13.6 to 17.7)	15.4	(12.9 to 18.3)	15.8	(12.9 to 19.3)
Austria	1236	16.0	(14.1 to 18.2)	20.4	(17.3 to 23.8)	12.1	(9.8 to 14.8)
Sweden	1323	17.0	(15.0 to 19.1)	14.9	(12.3 to 17.9)	18.8	(16.1 to 21.9)
Luxembourg	425	17.4	(14.1 to 21.3)	21.4	(16.8 to 26.7)	11.1	(7.1 to 16.9)
Germany	1265	18.3	(16.3 to 20.5)	21.1	(18.2 to 24.4)	15.0	(12.3 to 18.2)
Netherlands	1367	20.3	(18.3 to 22.6)	21.8	(18.9 to 25.1)	18.9	(16.2 to 22.0)
Finland	1153	24.0	(21.6 to 26.6)	22.0	(18.7 to 25.7)	25.7	(22.4 to 29.3)
Total	16257	14.5	(13.9 to 15.0)	15.5	(14.7 to 16.3)	13.3	(12.6 to 14.1)

\*Absent at least one day in the past 12 months by an accident at work, by health problems caused by the work, or by other health problems.

# European Survey of Working Conditions - Odds Ratios

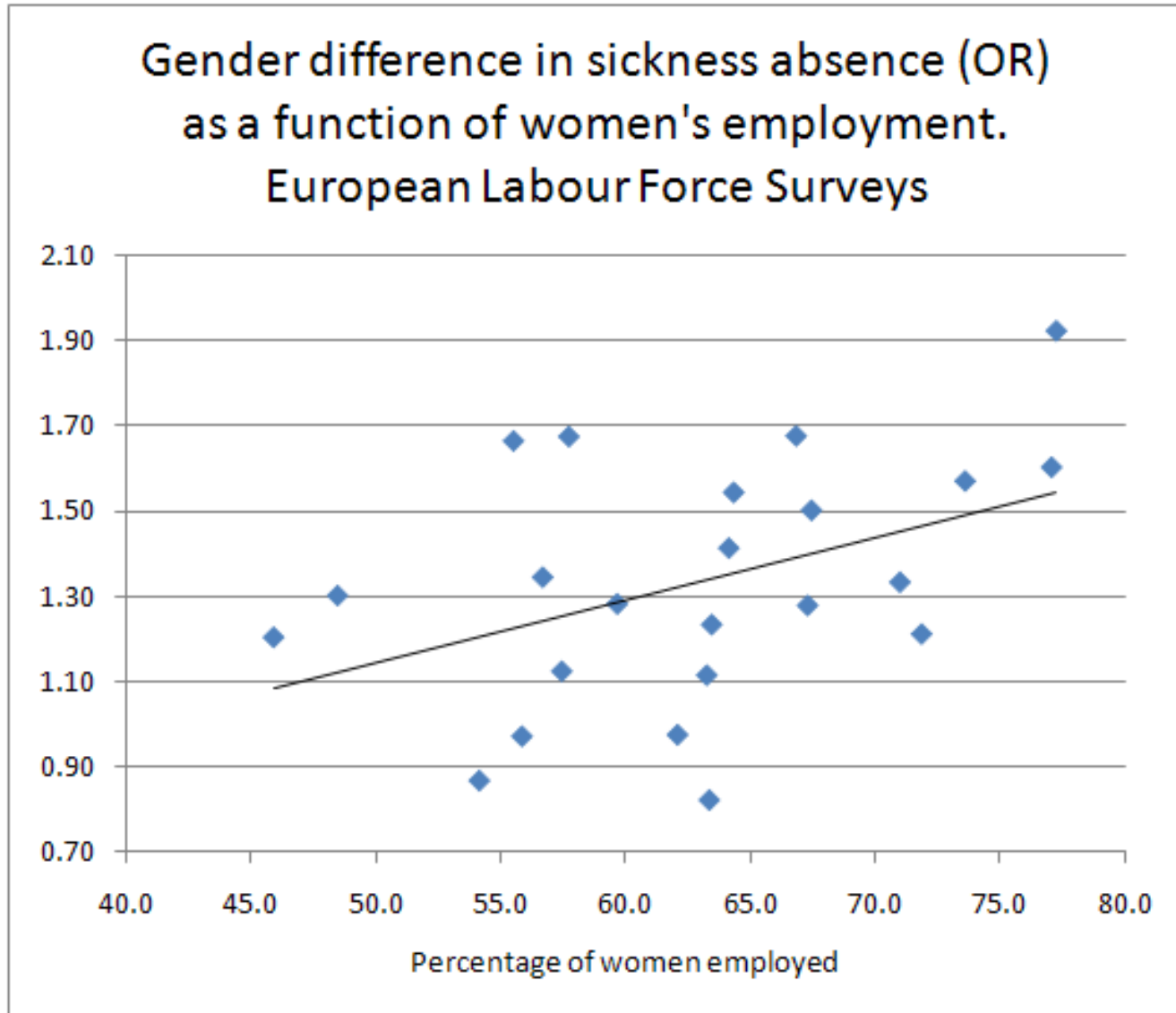
		Men	Women	OR
Sweden	1323	14.9	18.8	1.32
Finland	1153	22	25.7	1.23
Belgium	1201	15.4	15.8	1.03
Denmark	1221	12.9	12	0.92
Netherlands	1367	21.8	18.9	0.84
France	1212	15.4	12.9	0.81
Ireland	1078	9.2	7.3	0.78
United Kingdom	1212	13.3	10	0.72
Germany	1265	21.1	15	0.66
Portugal	1011	10.1	6.8	0.65
Italy	1025	9.9	6.4	0.62
Spain	1032	13.5	8.6	0.60
Austria	1236	20.4	12.1	0.54
Luxembourg	425	21.4	11.1	0.46
Greece	496	8.9	3.5	0.37
Total	16257	15.5	13.3	0.84

## Cross-national evidence 2: European Labour Force Surveys

Sickness absence in reference week according to European Labour Force Surveys. Men and women 25-54. Average 1997-2007. Source: Eurostat

	Pct. absent due to sickness				Pct. absent due to sickness			
	Men	Women	OR			Men	Women	OR
Iceland	0.9 %	1.8 %	2.10		Slovenia	2.9 %	3.7 %	1.28
Romania	0.1 %	0.2 %	1.99		France	2.3 %	2.8 %	1.23
Sweden	2.3 %	4.3 %	1.92		Switzerland	1.3 %	1.5 %	1.21
Portugal	1.3 %	2.2 %	1.68		Italy	1.0 %	1.2 %	1.20
Ireland	1.0 %	1.6 %	1.67		Lithuania	0.5 %	0.6 %	1.16
Hungary	1.0 %	1.7 %	1.66		Belgium	2.4 %	2.7 %	1.12
Norway	2.7 %	4.3 %	1.60		Austria	2.0 %	2.2 %	1.11
Bulgaria	0.3 %	0.5 %	1.59		Germany	1.3 %	1.3 %	0.97
Denmark	1.3 %	2.0 %	1.57		Luxembourg	1.5 %	1.4 %	0.97
Czech Republic	2.6 %	3.9 %	1.54		Latvia	0.7 %	0.6 %	0.89
United Kingdom	1.6 %	2.3 %	1.50		Croatia	2.4 %	2.1 %	0.87
Netherlands	2.9 %	4.0 %	1.41		Malta	0.4 %	0.3 %	0.86
Poland	1.4 %	1.9 %	1.34		Cyprus	1.2 %	1.0 %	0.82
Finland	2.0 %	2.7 %	1.33		Turkey	0.2 %	0.2 %	0.82
Spain	1.6 %	2.1 %	1.30		Greece	0.1 %	0.1 %	0.77
Slovakia	1.3 %	1.7 %	1.28		Estonia	0.9 %	0.7 %	0.73

# Why so much cross-national variation?



# Explanations of gender difference in sickness absence

## **Predispositional factors:**

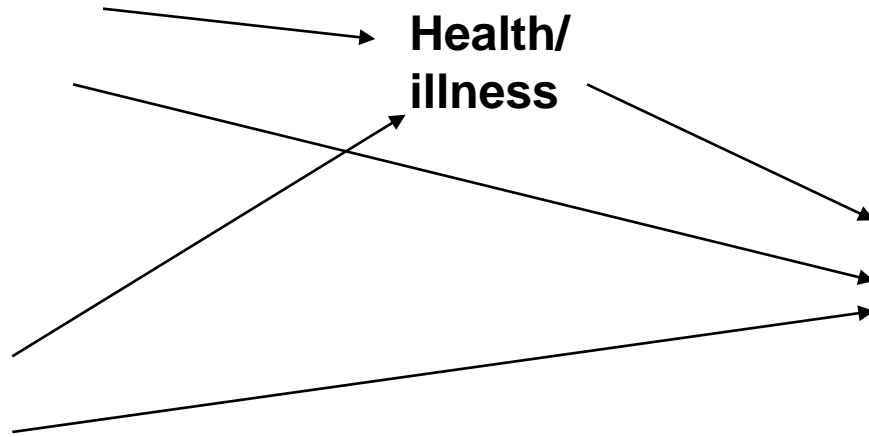
Biology  
Socialization

**Health/  
illness**

**Sickness  
absence**

## **Situational factors:**

Work  
Home



# Work: Do women have less healthy jobs?

Segregated labour market:

- Vertical segregation: Women in lower ranked jobs
- Horizontal segregation: Women and men in different environments and with different tasks

What would happen if men and women were in identical jobs?

Surprisingly few studies address this issue!

Methods for removing effect of different job/working conditions:

1. Control for suspected causal variables
2. Within group estimates
3. Matching



# 1. Control for suspected causal variables

## 1.1. Laaksonen et al. (2008): Finnish municipal employees

**Table 2** Rate ratios (95% CI) for the excess risk of sickness absence among women as compared to men (RR 1.00) (n = 6275): the effect of adjusting for health status, working conditions and family-related factors

	Self-certified	OR= 1.33 in LFS	Medically confirmed		
			≥4 days	>2 weeks	>60 days
Base model*	1.46 (1.34 to 1.59)	1.34 (1.22 to 1.47)		1.25 (1.08 to 1.45)	1.06 (0.79 to 1.44)
Working conditions					
Physical demands	1.43 (1.31 to 1.56)		1.24 (1.13 to 1.36)	1.13 (0.97 to 1.31)	0.95 (0.70 to 1.29)
Mental demands	1.46 (1.34 to 1.59)		1.34 (1.22 to 1.48)	1.25 (1.08 to 1.45)	1.06 (0.79 to 1.43)
Job strain (Karasek)	1.46 (1.34 to 1.58)		1.32 (1.21 to 1.45)	1.24 (1.07 to 1.44)	1.06 (0.79 to 1.43)
Work fatigue	1.44 (1.32 to 1.56)		1.31 (1.19 to 1.43)	1.19 (1.04 to 1.38)	1.00 (0.76 to 1.31)
Job satisfaction	1.48 (1.37 to 1.61)		1.37 (1.25 to 1.51)	1.30 (1.12 to 1.50)	1.10 (0.83 to 1.47)
Bullying at workplace	1.45 (1.33 to 1.57)		1.33 (1.21 to 1.46)	1.24 (1.07 to 1.43)	1.04 (0.78 to 1.40)
Being bullied	1.46 (1.34 to 1.58)		1.34 (1.22 to 1.47)	1.25 (1.08 to 1.44)	1.05 (0.79 to 1.41)
All working conditions	1.44 (1.32 to 1.57)		1.23 (1.12 to 1.35)	1.13 (0.98 to 1.31)	0.94 (0.71 to 1.26)

Limitation: Not clear whether this generalizes to the labour market as a whole

## 1.2. Niedhammer et al. (2008): French general population (N=24486)

Study not specifically focussing on gender differences, but provides the key statistics:

- overall gender difference in sickness absence
- means of exposures
- gender specific OR's for impact of exposures

Can then calculate how much women's sickness would change if they had men's level of exposures (cf. Oaxaca decomposition of differences, O'Donnell et al. 2008)

Overall gender difference:

- Pct. with >8 days sickness absence: W: 17, M: 14
- Odds ratio (OR) = 1.371 (cf. 1.23 in LFS)
- $\beta = \ln(\text{OR}) = 0.315$

# Changes in women's absence if men's level of exposure (part 1)

	Predictor means		OR		$\beta = \ln(\text{OR})$	$\Delta x \cdot \beta$	
	Men	Women	Men	Women	Women		
Low decision latitude	0.45	0.56	1.31	1.33	0.29	-0.031	
High demands	0.60	0.63	1.11	1.23	0.21	-0.006	
Low social support	0.43	0.43	1.27	1.36	0.31	0.000	
Workplace bullying	0.17	0.18	1.37	1.29	0.25	-0.003	
Aggression from the public	0.14	0.23	1.37	1.37	0.31	-0.028	-0.068
Physical exposure	0.25	0.11	1.20	1.32	0.28	0.039	
Ergonomic exposure	0.53	0.40	1.10	1.06	0.06	0.008	
Biological exposure	0.11	0.23	0.99	1.10	0.10	-0.011	
Chemical exposure	0.44	0.28	1.16	0.92	-0.08	-0.013	0.022
Part time work	0.04	0.26	1.13	0.94	-0.06	0.014	
Shift work without night	0.13	0.13	1.26	1.03	0.03	0.000	
Night work	0.06	0.03	1.11	1.07	0.07	0.002	
Shift work including nights	0.07	0.02	1.24	1.29	0.25	0.013	0.028
Associate prof., technicians	0.27	0.27	1.36	1.39	0.33	0.000	
Clerks, service workers	0.10	0.50	2.05	1.66	0.51	-0.203	
Blue-collar workers	0.46	0.14	2.03	2.09	0.74	0.236	0.033

## Changes in women's absence if men's level of exposure (part 2)

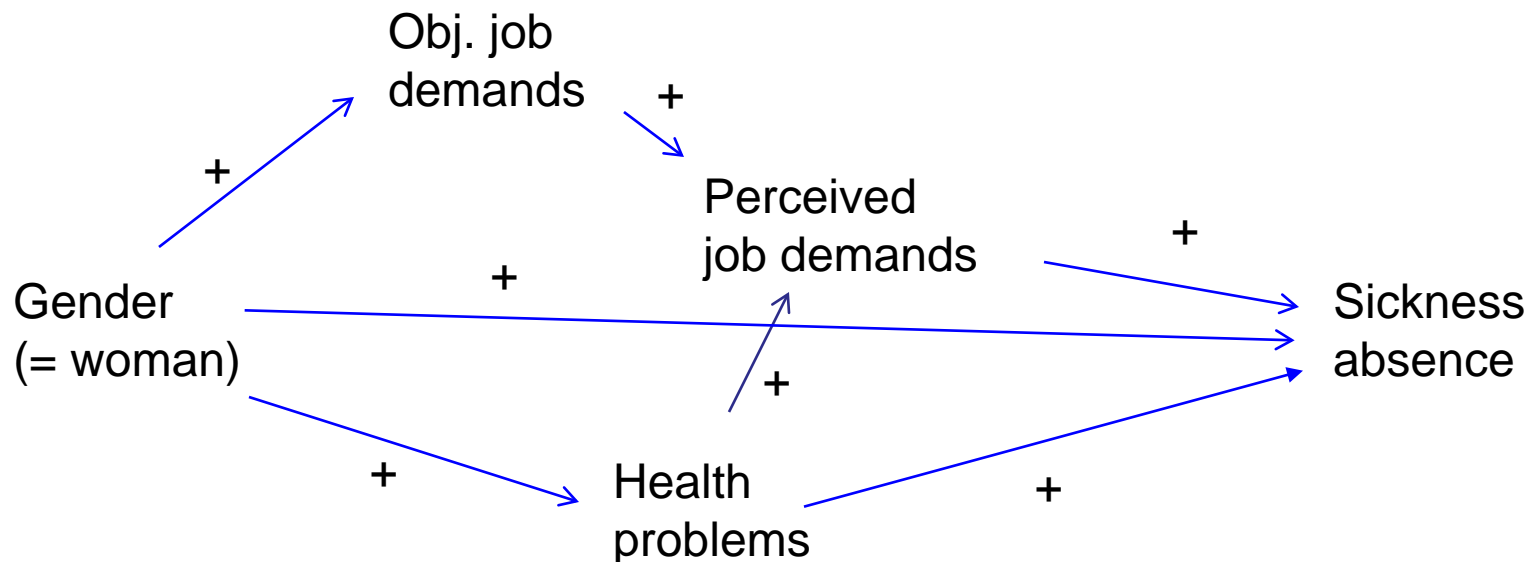
	Predictor means		OR		$\beta = \ln(\text{OR})$	$\Delta x \cdot \beta$	
	Men	Women	Men	Women	Women		
Age 30-39	0.31	0.29	0.84	1.00	0.00	0.000	
Age 40-49	0.29	0.29	1.03	0.92	-0.08	0.000	
Age >=50	0.19	0.20	1.17	1.26	0.23	-0.002	-0.002
Contract of limited duration	0.02	0.04	0.54	0.82	-0.20	0.004	
Civil servants	0.03	0.12	1.12	0.98	-0.02	0.002	
Firms supplying temps	0.03	0.02	0.57	0.48	-0.73	-0.007	
Trainees and state-supported	0.00	0.01	1.01	0.86	-0.15	0.002	
Apprenticeship	0.02	0.01	1.12	0.87	-0.14	-0.001	-0.001
Sum of contributions of exposures to gender difference						0.011	0.011

	$\ln(\text{OR})$	OR
Overall gender difference	0.315	1.371
Difference after control	0.304	1.356

# 1. Control for suspected causal variables, cont'd

Potential problems:

- Crude measurement of exposures (often dichotomies, see Royston et al. 2006)(residual gender difference overestimated)
- Alternatively assumptions about functional form (typically linearity)
- Not all relevant working conditions controlled for (residual gender difference overestimated)
- Subjective perceptions and not objective working conditions (residual gender difference underestimated)



## 2. Within group estimates

- Define groups with (nearly) identical working conditions
- Compare men and women who are in the same group

How to define groups?

Mastekaasa and Olsen (1998); Mastekaasa and Dale-Olsen (2000):  
Same job title/four digit occupation in the same workplace

	Ordinary estimate (OR)	Within o-w estimate (RR or OR)	N	No. of o-w comb.
Civil servants		1.57	10184	603
State railways		1.75	8932	294
National sample 1990	1.52	1.67	13072	2698
National sample 1995	1.57	1.60	49914	10285

- Limitation: Remaining heterogeneity within groups

# 3. Matching

- Not used in studies of gender differences in sickness absence
- For each individual in "treatment group" (women or men) select one or more individuals with identical values on potential confounders (comparison group: men or women)
- Within group method can be considered as matching with occupation-workplace as matching variable
- Generally avoids problem of functional form of relationships

# Different effects of working conditions for men and women?

- Limitation of control variable method, within group method and matching: only average gender effect
- Average gender effect given a particular state of the economic system or labour market
- Under what conditions does the gender difference become smaller or larger?



# Evidence on the differential impact issue

	<b>Location</b>	<b>N</b>	<b>Gender differences found</b>
Laaksonen et al (2008)	Finland	6934	None
Niedhammer et al. (2008)	France	24486	Chemical exposures more important for M
Moreau et al. (2004)	Belgium	20463	None
Ishizaki et al. (2006)	Japan	24081	In some analyses, job strain more important for M, support for W
Lund et al. (2005, 2006)	Denmark	5357	None
Virtanen et al. (2007)	Finland	7986	Job control and active job more important for M
Väänänen et al. (2003)	Finland	3895	In some analyses, autonomy and complexity more important for M, supervisor support for W
North et al. (1996)	UK	9072	In some analyses, demands, control and support are more important for M
Head et al. (2007)	UK	10308	In some analyses, relational justice more important for W

# Different effects of working conditions for men and women, cont'd.

- Generally few/small differences
- Some evidence that autonomy etc. has stronger effect for men, weak evidence that social relationships may be more important for women

# Home demands/family structure: Do children increase women's sickness absence

US: Weak/moderate positive association between children and sickness absence for married women (Vistnes, 1997; Leigh, 1986)

UK: Increased absence for married women if child <1 year, little association otherwise (Ercolani, 2000; Barham and Begum, 2005)

Finland and Norway: Very weak tendency toward higher sickness absence for married women if small children (Väänänen et al., 2008; Bratberg et al., 2002; Mastekaasa, 2000). Also some association for men

Sweden: Somewhat inconsistent results, but little evidence of a strong association (Åkerlind et al., 1997; Blank and Diderichsen, 1995; Voss et al., 2008)

But considerable evidence of higher sickness absence for lone mothers

# Subjectively assessed work-family conflict, etc.

## (A) Gender differences in prevalence

Byron (2005): Meta-analysis of 28 studies:

"Contrary to hypotheses in many studies, the present analysis suggests that overall men and women have similar levels of WIF [work interference with family] and FIW [family interference with work]." (p. 190). (Women **slightly** more FIW, men **slightly** more WIF)

"When more women are represented in the sample, the employee's number of children is less positively related to WIF and FIW. For example, the weighted mean average correlation between number of children and WIF is .15 for all male samples and .02 for all female samples; and, for FIW, is .21 and .08, respectively." (pp. 188-189)

Lack of gender difference confirmed in recent large-scale studies

- Väänänen et al. (2008): High WIF, Women: 33%, Men: 29%
- Jansen et al. (2006): High WFC, Women: 10%, Men: 11%

# Subjectively assessed work-family conflict, cont'd.

## (B) Relations to sickness absence

Väänänen (2008): Negative Work-Family Spillover

RR (high v. low): M: 1.27, W: 1.41 (gender diff. not significant)

Jansen et al. (2006): Work-Family Conflict

Cross-sectional ass. (OR): M: 1.76, W: 3.92 (gender diff. significant)

Prospective (regr. coeff): M: .093, W: .116 (gender diff. not significant)

# Conclusions

- Considerable cross-national differences in the gender – sickness absence relationship
- Considerable gender difference after control for working conditions (Finland, France)
- Large gender differences in sickness absence even when doing very similar jobs in the same workplaces (Norway)
- Women not generally more vulnerable to problematic working conditions
- Family related factors may have some, but only weak impact on gender differences (Finland, Norway, Sweden, UK)

Hypothesis: Gender differences in sickness absence are to large extent dispositional, i.e., developed before family formation and employment

Is there any more direct evidence for this hypothesis?

# Development of gender differences in health/illness behaviour

Several studies suggest that gender differences develop during adolescence: Sweeting (1995), Sweeting and West (2003), Haugland et al. (2001), Sundblad, Saartok and Engström (2007), Torsheim et al. (2006).

Torsheim et al. (2006):

N=125732 in 29 European and North American countries

Recurrent health complaint	11-year-olds	13-year-olds	15-year-olds
	Fixed effect	Fixed effect	Fixed effect
	OR	OR	OR
Headache	1.58	2.01	2.90
Abdominal pains	1.86	2.29	2.67
Back pain	1.25	1.29	1.34
Dizziness	1.41	1.83	1.79
Feeling low	1.34	2.03	2.49
Irritable	1.20	1.41	1.54
Nervous	1.22	1.59	1.66
Sleeping difficulties	1.11	1.36	1.57



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