

Socioeconomic status, work environment and sleep disturbances - A cross sectional study of a representative sample of the working population in Sweden (SLOSH)

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Introduction

Economic and social impact on sleep quality is a somewhat neglected topic and the few available studies do not show consistent results.

Objective

The purpose of this study is to explore the relation between socioeconomic status and poor sleep quality – and to explore possible mechanisms with focus on physical and psychosocial work environment.

Method

The data in this study was derived from The Swedish Longitudinal Occupational Survey of Health, SLOSH. The purpose of SLOSH was to create a database on occupational impact on health and thereby enable research on more efficient work environment management. The present study was a cross-sectional study based on the third wave of SLOSH in 2010. The study population was a representative sample of the working population in Sweden (n=9132, 55.8% women, 44.2% men). Logistic regression was made in five hierarchical models.

Dependent: Poor Sleep Quality		Prevalence % (n)	Crude/Unadjusted OR (95% CI)	Model 1a OR (95% CI)	Model 1b OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)	Model 5a OR (95% CI)	Model 5b OR (95% CI)
Social position, age & gender (%)										
Occupational group	Manual workers (31.1)	13.6 (371)	1	1	1	1	1	1	1	1
	Non-manual workers (43.4)	15 (578)	1.11 (0.97-1.28)	1.01 (0.88-1.17)	1.26 (1.06-1.50)	1.29 (1.08-1.55)	1.01 (0.84-1.22)	1.26 (1.00-1.59)	1.32 (1.04-1.69)	1.32 (1.04-1.69)
	Executives (21.1)	13.2 (245)	0.97 (0.81-1.15)	0.96 (0.81-1.15)	1.32 (1.07-1.65)	1.31 (1.05-1.65)	0.91 (0.65-1.02)	1.12 (0.84-1.50)	1.22 (0.91-1.64)	1.22 (0.91-1.64)
	Selfemployed (3.6)	10.6 (52)	0.75 (0.51-1.10)	0.81 (0.55-1.19)	0.94 (0.62-1.41)	0.84 (0.54-1.29)	0.69 (0.42-1.15)	0.78 (0.45-1.36)	0.83 (0.47-1.46)	0.83 (0.47-1.46)
Subjective Social Position	McArthur scale 1-10 (N/A)	N/A	0.81 (0.77-0.84)	0.80 (0.77-0.84)						0.89 (0.85-0.95)
Age, continuous	20-72 years (N/A)	N/A	1.02 (1.01-1.02)	1.02 (1.01-1.02)	1.02 (0.01-1.02)	1.02 (0.01-1.02)	1.02 (0.01-1.02)	1.03 (0.02-1.04)	1.03 (1.02-1.04)	1.03 (1.02-1.04)
Gender	Men (44.2)	10.1 (396)	1	1	1	1	1	1	1	1
	Women (55.8)	17.1 (849)	1.84 (1.62-2.09)	1.83 (1.61-2.09)	1.80 (1.58-2.05)	1.91 (1.66-2.19)	1.92 (1.66-2.22)	1.73 (1.47-2.03)	1.60 (1.34-1.91)	1.57 (1.31-1.88)
Physical work environment (%)										
Physical labour	Exposed (25.1)	15 (332)	1.11 (0.97-1.27)			0.82 (0.66-1.02)	0.83 (0.67-1.04)		0.91 (0.69-1.19)	0.86 (0.65-1.14)
	Not exposed (74.9)	13.7 (905)	1	1	1	1	1	1	1	1
Heavy lifting	Exposed (12.3)	17.1 (187)	1.32 (1.11-1.57)			1.23 (0.96-1.57)	1.24 (0.96-1.60)		1.29 (0.95-1.77)	1.26 (0.92-1.74)
	Not exposed (87.7)	13.6 (1048)	1	1	1	1	1	1	1	1
Twisted positions	Exposed (20.5)	18.1 (909)	1.48 (1.29-1.70)			1.28 (1.04-1.59)	1.26 (1.01-1.56)		0.99 (0.76-1.30)	0.99 (0.76-1.30)
	Not exposed (79.5)	13 (327)	1	1	1	1	1	1	1	1
Noise	Exposed (37.2)	17.7 (576)	1.63 (1.44-1.85)			1.35 (1.16-1.56)	1.36 (1.17-1.75)		1.19 (0.99-1.43)	1.18 (0.98-1.41)
	Not exposed (62.8)	11.7 (643)	1	1	1	1	1	1	1	1
Bad light	Exposed (14.4)	20.6 (260)	1.77 (1.52-2.06)			1.32 (1.10-1.59)	1.27 (1.06-1.53)		1.12 (0.90-1.41)	1.12 (0.89-1.41)
	Not exposed (85.6)	12.8 (956)	1	1	1	1	1	1	1	1
Vibrations	Exposed (5.2)	17.5 (80)	1.33 (1.04-1.71)			1.05 (0.77-1.42)	1.02 (0.74-1.40)		1.18 (0.79-1.75)	1.16 (0.77-1.74)
	Not exposed (94.8)	13.8 (1141)	1	1	1	1	1	1	1	1
Toxins	Exposed (3.6)	21.3 (66)	1.70 (1.29-2.25)			1.32 (0.96-1.80)	1.42 (1.03-1.95)		1.14 (0.76-1.71)	1.19 (0.78-1.80)
	Not exposed (96.4)	13.7 (1154)	1	1	1	1	1	1	1	1
Unpleasant temperature	Exposed (12.0)	20.9 (217)	1.76 (1.51-2.09)			1.58 (1.30-1.92)	1.54 (1.26-1.89)		1.10 (0.85-1.42)	1.07 (0.82-1.79)
	Not exposed (88.0)	13 (998)	1	1	1	1	1	1	1	1
Work hours & commuting time (%)										
Long work shift	Often (3.2)	17.2 (138)	1.32 (1.09-1.60)				1.41 (1.13-1.76)		1.46 (1.11-1.94)	1.46 (1.10-1.93)
	Never-Occasionally (90.8)	13.6 (1089)	1	1	1	1	1	1	1	1
Short rest between shifts	Often (19.9)	15.5 (265)	1.17 (1.01-1.35)				1.12 (0.95-1.31)		1.12 (0.93-1.36)	1.14 (0.94-1.38)
	Never-Occasionally (80.1)	13.6 (940)	1	1	1	1	1	1	1	1
Working hours/week	<35 h (17.1)	16.4 (250)	1.12 (0.92-1.38)				0.94 (0.74-1.19)		2.21 (1.62-3.02)	2.03 (1.48-2.79)
	36-45 h (67.1)	13.1 (768)	0.86 (0.73-1.02)				0.8 (0.66-0.98)		1.56 (1.20-2.02)	1.45 (1.10-1.93)
	>46 (15.4)	14.9 (199)	1	1	1	1	1	1	1	1
Commuting time/week	<5 h (75.1)	13.5 (900)	0.82 (0.63-1.06)				1		1	1
	6-10 h (19.8)	14.1 (243)	0.84 (0.63-1.12)				1.08 (0.91-1.26)		0.94 (0.77-1.15)	0.94 (0.77-1.15)
	>11h (5.1)	16.3 (73)	1	1	1	1	1.14 (0.95-1.31)		0.96 (0.68-1.35)	0.90 (0.63-1.28)
Psychosocial work environment (%)										
Stress levels	High (18.3)	32.8 (528)	4.48 (3.94-5.10)					2.56 (2.15-3.06)	2.61 (2.16-3.11)	2.64 (2.19-3.17)
	Low (81.7)	9.8 (707)	1	1	1	1	1	1	1	1
Overcommitment	High (25.9)	24.5 (555)	2.83 (2.50-3.20)					1.80 (1.53-2.13)	1.88 (1.59-2.23)	1.89 (1.59-2.24)
	Low (74.1)	10.3 (667)	1	1	1	1	1	1	1	1
Work family conflict	High (24.1)	28.6 (604)	3.88 (3.42-4.40)					1.99 (1.68-2.36)	2.04 (1.71-2.45)	2.02 (1.68-2.42)
	Low (75.9)	9.4 (625)	1	1	1	1	1	1	1	1
Family work conflict	High (0.8)	38.4 (28)	3.95 (2.46-6.36)					2.70 (1.50-4.85)	2.45 (1.31-4.56)	2.41 (1.28-4.52)
	Low (99.2)	13.6 (1177)	1	1	1	1	1	1	1	1
Work family enhancement	High (10.9)	7.2 (63)	0.43 (0.33-0.56)					0.80 (0.58-1.10)	0.81 (0.58-1.13)	0.83 (0.59-1.16)
	Low (89.1)	15.4 (1112)	1	1	1	1	1	1	1	1
Family work enhancement	High (44.9)	9.5 (326)	0.50 (0.41-0.55)					0.62 (0.52-0.73)	0.62 (0.52-0.73)	0.63 (0.53-0.76)
	Low (55.1)	18.3 (764)	1	1	1	1	1	1	1	1
Job strain	Demands/Control (N/A)	N/A	6.59 (5.16-8.42)					2.65 (1.92-3.66)	2.41 (1.72-3.41)	2.11 (1.49-3.00)

Results & Conclusions

Results

There are no differences in the risk of poor sleep quality between different occupational groups. However, subjective socioeconomic status showed a significant OR (0.80 95% CI 0.77-0.84) for poor sleep quality. Exposure to noise, bad light and unpleasant temperatures related to poor sleep quality

when controlling for SES, gender and age, but became insignificant in the fully adjusted model. The psychosocial variables showed the strongest ORs; stress (OR 2.80 95% CI 2.35-3.35); work-family conflict (OR 2.18 95% CI 1.29-2.59); job strain (OR 2.41 95% CI 1.72-3.41) and family-work enhancement (OR 0.62 95% CI 0.52-0.73).

Conclusions

Mainly stress related variables were significantly related to disturbed sleep. Traditional criteria of socioeconomic status did not relate to sleep, but subjective estimates of one's own status did.

CONTACT