

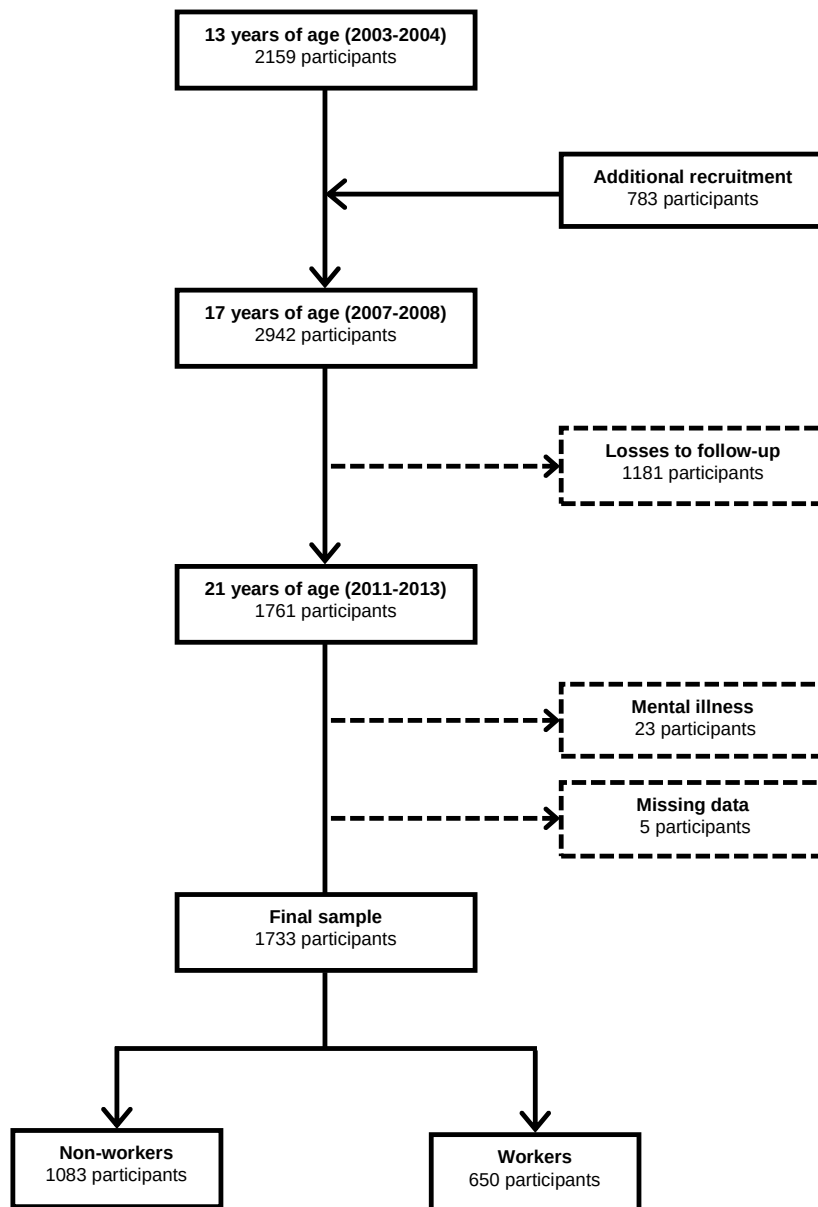
Scand J Work Environ Health. 2015;41(3):234–246. doi:10.5271/sjweh.3493

Patterns of biomechanical demands are associated with musculoskeletal pain in the beginning of professional life: a population-based study ¹

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¹ Appendices 1 and 2

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Appendix 1. Flowchart illustrating the EPITeen cohort waves and the final sample of participants included in the study

Appendix 2. Sensitivity analysis regarding the associations of patterns of occupational biomechanical demands with presence and severity of regional musculoskeletal pain in 21-year-old young adults (considering only workers who were employed for at least 12 months)

		Regional musculoskeletal pain					Moderate to severe regional musculoskeletal pain (VAS >40 millimetres)				
		All participants ^a		Only workers ^b			All participants ^a		Only workers ^b		
		n=1346	n=1329	n=263	n=261		n=1346	n=1329	n=263	n=261	
		Subjects reporting pain	Crude	Adjusted	Crude	Adjusted	Subjects reporting pain	Crude	Adjusted	Crude	Adjusted
		n (%)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	n (%)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Neck and shoulders											
Workers	Non-workers	484 (44.7)	-	-	.	.	172 (15.9)	-	-	.	.
	Low demands	25 (40.3)	0.84 (0.50-1.41)	0.91 (0.53-1.54)	-	-	10 (16.1)	1.02 (0.51-2.04)	0.96 (0.47-1.95)	-	-
	Sitting demands	33 (46.5)	1.07 (0.66-1.74)	1.20 (0.72-2.01)	1.29 (0.65-2.56)	1.45 (0.68-3.09)	13 (18.3)	1.19 (0.64-2.21)	1.14 (0.59-2.19)	1.17 (0.47-2.88)	1.39 (0.52-3.72)
	Repetitive & asymmetric demands	35 (54.7)	1.49 (0.90-2.48)	1.62 (0.96-2.73)	1.79 (0.88-3.62)	1.85 (0.86-3.98)	15 (23.4)	1.62 (0.89-2.96)	1.40 (0.75-2.62)	1.59 (0.65-3.88)	1.44 (0.55-3.79)
	High & vibrational demands	39 (59.1)	1.79 (1.08-2.96)	2.23 (1.30-3.83)	2.14 (1.06-4.33)	2.82 (1.28-6.19)	16 (24.2)	1.69 (0.94-3.05)	1.60 (0.85-3.00)	1.66 (0.69-4.01)	1.80 (0.68-4.79)
Upper limb											
Workers	Non-workers	268 (24.7)	-	-	.	.	106 (9.8)	-	-	.	.
	Low demands	17 (27.4)	1.15 (0.65-2.04)	1.12 (0.62-2.00)	-	-	4 (6.5)	0.64 (0.23-1.79)	0.53 (0.18-1.51)	-	-
	Sitting demands	21 (29.6)	1.28 (0.75-2.17)	1.19 (0.68-2.08)	1.11 (0.52-2.37)	1.28 (0.57-2.91)	5 (7.0)	0.70 (0.28-1.77)	0.61 (0.23-1.59)	1.10 (0.28-4.29)	1.63 (0.37-7.12)
	Repetitive & asymmetric demands	23 (35.9)	1.71 (1.01-2.90)	1.64 (0.95-2.83)	1.48 (0.70-3.16)	1.62 (0.72-3.67)	7 (10.9)	1.13 (0.50-2.54)	0.90 (0.39-2.10)	1.78 (0.49-6.42)	2.15 (0.52-8.86)
	High & vibrational demands	19 (28.8)	1.23 (0.71-2.13)	1.22 (0.68-2.18)	1.07 (0.49-2.31)	1.46 (0.63-3.38)	9 (13.6)	1.46 (0.70-3.02)	1.22 (0.56-2.67)	2.29 (0.67-7.86)	4.12 (1.00-16.94)
Upper and lower back											
Workers	Non-workers	601 (55.5)	-	-	.	.	270 (24.9)	-	-	.	.
	Low demands	33 (53.2)	0.91 (0.55-1.52)	0.89 (0.52-1.51)	-	-	18 (29.0)	1.23 (0.70-2.17)	1.10 (0.61-1.99)	-	-
	Sitting demands	46 (64.8)	1.48 (0.89-2.44)	1.62 (0.94-2.79)	1.62 (0.81-3.25)	1.92 (0.89-4.12)	28 (39.4)	1.96 (1.19-3.22)	1.87 (1.09-3.20)	1.59 (0.77-3.29)	1.92 (0.87-4.24)
	Repetitive & asymmetric demands	45 (70.3)	1.90 (1.10-3.29)	1.72 (0.97-3.03)	2.08 (1.00-4.33)	1.98 (0.90-4.35)	24 (37.5)	1.81 (1.07-3.05)	1.47 (0.84-2.56)	1.47 (0.70-3.09)	1.33 (0.60-2.97)
	High & vibrational demands	49 (74.2)	2.31 (1.31-4.07)	2.38 (1.31-4.32)	2.53 (1.20-5.33)	2.79 (1.23-6.29)	28 (42.4)	2.22 (1.34-3.68)	2.05 (1.18-3.57)	1.80 (0.86-3.75)	1.92 (0.86-4.30)
Lower limb											
Workers	Non-workers	462 (42.7)	-	-	.	.	210 (19.4)	-	-	.	.
	Low demands	30 (48.4)	1.26 (0.75-2.10)	1.26 (0.75-2.12)	-	-	15 (24.2)	1.33 (0.73-2.42)	1.21 (0.65-2.24)	-	-
	Sitting demands	26 (36.6)	0.78 (0.47-1.28)	0.67 (0.40-1.14)	0.62 (0.31-1.23)	0.50 (0.24-1.05)	19 (26.8)	1.52 (0.88-2.62)	1.18 (0.66-2.12)	1.14 (0.52-2.51)	1.05 (0.45-2.42)
	Repetitive & asymmetric demands	27 (42.2)	0.98 (0.59-1.63)	0.96 (0.57-1.63)	0.78 (0.39-1.57)	0.70 (0.33-1.48)	19 (29.7)	1.76 (1.01-3.06)	1.57 (0.88-2.79)	1.32 (0.60-2.92)	1.23 (0.54-2.82)
	High & vibrational demands	26 (39.4)	0.87 (0.53-1.45)	0.88 (0.51-1.50)	0.69 (0.34-1.40)	0.64 (0.30-1.38)	15 (22.7)	1.22 (0.67-2.22)	1.04 (0.55-1.95)	0.92 (0.41-2.09)	0.81 (0.34-1.94)

Abbreviations: VAS: visual analogue scale; OR: odds ratio; 95% CI: 95% confidence interval.

^a The reference category comprised the young non-worker adults; multiple logistic regressions consider adjustment for sex, body mass index, physical activity, smoking and education.

^b The reference category comprised the young adult workers with occupational low demands; multiple logistic regressions consider adjustment for sex, body mass index, physical activity, smoking, education and occupational psychosocial context.