

Supplemental Digital Content 1 Associations between exposures to physical risk factors considered independently at baseline and occurrence of workplace injuries (WI) during the period 2006-2010 adjusted for covariates (by age group)^a

		Total (N=6842) WI = 225				<= 30 years old (N=895) WI = 39		between 30 and 50 years old (N=3723) WI =127		>= 50 years old (N=2224) WI = 59		p ^b
		n (%)	WI	IRR	IC 95%	IRR	IC 95%	IRR	IC 95%	IRR	IC 95%	
Physical risk factors ^c												
loud noise	yes	1140 (16.9)	66	1.37*	1.01 - 1.85	0.69	0.31 - 1.50	1.35	0.90 - 2.02	2.11**	1.23 - 3.62	0.062
	no	5625 (83.1)	155	ref		ref		ref		ref		
intensive vibrations or efforts using tools, machinery or vehicles	yes	619 (9.2)	60	2.03***	1.46 - 2.82	1.62	0.79 - 3.31	1.65*	1.05 - 2.57	3.47***	2.00 - 6.04	0.076
	no	6146 (90.8)	161	ref		ref		ref		ref		
handling heavy loads	yes	1384 (20.5)	96	2.02***	1.52 - 2.69	1.89*	1.00 - 3.59	1.77**	1.22 - 2.57	2.82***	1.66 - 4.79	0.340
	no	5381 (79.5)	125	ref		ref		ref		ref		
extreme temperatures	yes	1978 (29.2)	138	2.45***	1.79 - 3.37	2.13*	1.08 - 4.19	2.49***	1.67 - 3.70	2.61***	1.49 - 4.57	0.899
	no	4787 (70.8)	83	ref		ref		ref		ref		
awkward or uncomfortable postures	yes	2574 (38.0)	127	1.62***	1.23 - 2.15	2.22*	1.12 - 4.41	1.26	0.88 - 1.81	2.35**	1.36 - 4.07	0.102
	no	4191 (62.0)	94	ref		ref		ref		ref		
repetitive tasks	yes	1188 (17.6)	60	1.24	0.91 - 1.69	0.94	0.46 - 1.94	1.41	0.95 - 2.11	1.15	0.64 - 2.09	0.594
	no	5577 (82.4)	161	ref		ref		ref		ref		
Number of physical risk factors (among the 6 first items)												
	0	3012 (44.5)	38	ref		ref		ref		ref		
	1	1323 (19.6)	39	1.78**	1.12 - 2.82	4.34*	1.15 - 16.45	1.81*	1.02 - 3.20	0.89	0.31 - 2.58	0.030*
	2+	2430 (35.9)	144	2.84***	1.90 - 4.23	5.20**	1.55 - 17.38	2.41***	1.47 - 3.94	3.17***	1.59 - 6.31	0.084
Toxic or noxious substances												
	yes	1302 (19.2)	75	1.36*	1.01 - 1.82	1.39	0.72 - 2.69	1.03	0.69 - 1.54	2.29**	1.35 - 3.88	0.056
	no	5463 (80.8)	146	ref		ref		ref		ref		
Physically demanding work (heavy loads, strenuous postures, noise, extreme temperature, vibration)												
	yes	2411 (35.6)	121	1.58***	1.19 - 2.09	1.42	0.75 - 2.68	1.65**	1.14 - 2.39	1.54	0.91 - 2.61	0.916
	no	4354 (64.4)	100	ref		ref		ref		ref		

^aPoisson regression models with adjustment on covariates: gender, age class, occupation, job activity, history of injuries, history of precarious situation

^bWald test for interaction

^cyes Always/Often ; no Sometimes/Never

Missing values <1,3%

Supplemental Digital Content 2 Associations between exposure to physical risk factors considered independently at baseline and occurrence of workplace injuries (WI) during the period 2006-2010 (crude & adjusted models)

	Population (N=6842)		model1 ^a		model2 ^b	
	WI = 225 / missing 1.1%	n (%)	IRR	IC 95%	IRR	IC 95%
Physical risk factors	c					
loud noise	yes	1140 (16.9)	2.10***	1.57 - 2.80	1.37*	1.01 - 1.85
	no	5625 (83.1)	ref		ref	
intensive vibrations or efforts using tools, machinery or vehicles	yes	619 (9.2)	3.67***	2.73 - 4.94	2.03***	1.46 - 2.82
	no	6146 (90.8)	ref		ref	
handling heavy loads	yes	1384 (20.5)	3.00***	2.30 - 3.91	2.02***	1.52 - 2.69
	no	5381 (79.5)	ref		ref	
extreme temperatures	yes	1978 (29.2)	3.97***	3.02 - 5.21	2.45***	1.79 - 3.37
	no	4787 (70.8)	ref		ref	
awkward or uncomfortable postures	yes	2574 (38.0)	2.19***	1.68 - 2.86	1.62***	1.23 - 2.15
	no	4191 (62.0)	ref		ref	
repetitive tasks	yes	1188 (17.6)	1.76***	1.31 - 2.37	1.24	0.91 - 1.69
	no	5577 (82.4)	ref		ref	
Number of physical risk factors (among the 6 first items)	0	3012 (44.5)	ref		ref	
	1	1323 (19.6)	2.32***	1.49 - 3.63	1.78**	1.12 - 2.82
	2+	2430 (35.9)	4.67***	3.27 - 6.68	2.84***	1.90 - 4.23
Toxic or noxious substances	yes	1302 (19.2)	2.13***	1.61 - 2.82	1.36*	1.01 - 1.82
	no	5463 (80.8)	ref		ref	
Physically demanding work (heavy loads, strenuous postures, noise, extreme temperature, vibration)	yes	2411 (35.6)	2.18***	1.67 - 2.84	1.58***	1.19 - 2.09
	no	4354 (64.4)	ref		ref	

^a Poisson regression models with no adjustment

^b Poisson regression models with adjustment on covariates: gender, age class, occupation, job activity, history of injuries, history of precarious situation

^c yes Always/Often ; no Sometimes/Never

Missing values <1,3%

		Population				<= 30 years old		between 30 and 50 years old		>= 50 years old		p ^b
		(N=6842)	WI	IRR	IC 95%	(N=895)	IC 95%	(N=3723)	IC 95%	(N=2224)	IC 95%	
	n (%)											
dimension 1: labour intensity and working time												
Labour intensity (at least one of the following items)												
	yes	3946 (58.3)	137	1.24	0.93 - 1.64	1.33	0.70 - 2.54	1.02	0.70 - 1.46	1.84*	1.04 - 3.27	0.210
	no	2819 (41.7)	84	ref		ref		ref		ref		
Work under pressure	yes	1964 (29)	57	0.96	0.71 - 1.30	1.15	0.58 - 2.26	0.82	0.54 - 1.26	1.14	0.64 - 2.04	0.572
	no	4801 (71)	164	ref		ref		ref		ref		
Too many tasks to think about	yes	3012 (44.5)	84	0.89	0.67 - 1.18	0.93	0.49 - 1.78	0.80	0.55 - 1.16	1.09	0.64 - 1.85	0.627
	no	3753 (55.5)	137	ref		ref		ref		ref		
Excessive workload	yes	1524 (22.5)	63	1.38*	1.03 - 1.85	1.45	0.72 - 2.91	1.34	0.91 - 1.98	1.43	0.80 - 2.55	0.973
	no	5241 (77.5)	158	ref		ref		ref		ref		
Working more than 48 hours per week	yes	1130 (16.7)	52	1.56**	1.09 - 2.25	1.83	0.80 - 4.16	1.43	0.90 - 2.26	1.72	0.92 - 3.21	0.810
	no	5635 (83.3)	169	ref		ref		ref		ref		
Working time (at least one of the following items)												
	yes	1975 (29.0)	98	1.43**	1.09 - 1.88	1.16	0.62 - 2.17	1.47*	1.03 - 2.11	1.57	0.92 - 2.66	0.750
	no	4790 (71.0)	123	ref		ref		ref		ref		
Night work	yes	525 (7.8)	25	0.98	0.64 - 1.50	0.41	0.13 - 1.35	1.06	0.61 - 1.83	1.57	0.71 - 3.47	0.185
	no	6240 (92.2)	196	ref		ref		ref		ref		
Shift work	yes	922 (13.6)	39	0.94	0.66 - 1.35	0.99	0.48 - 2.04	0.85	0.52 - 1.39	1.14	0.56 - 2.34	0.788
	no	5843 (86.4)	182	ref		ref		ref		ref		
Frequent business trips	yes	261 (3.9)	15	1.68	0.99 - 2.87	0.63	0.09 - 4.63	2.08*	1.08 - 4.01	1.60	0.58 - 4.45	0.523
	no	6504 (96.1)	206	ref		ref		ref		ref		
Irregular and non-predictable working hours	yes	988 (14.6)	52	1.63**	1.18 - 2.25	1.23	0.60 - 2.52	1.91**	1.27 - 2.88	1.41	0.71 - 2.80	0.507
	no	5777 (85.4)	169	ref		ref		ref		ref		
Work-family life imbalance												
Difficulties reconciling work and family life	yes	685 (10.1)	33	1.60**	1.09 - 2.33	1.16	0.41 - 3.27	1.52	0.93 - 2.48	2.20*	1.07 - 4.50	0.559
	no	6080 (89.9)	188	ref		ref		ref		ref		
dimension 2: emotional demand												
emotional demand (at least one of the following items)												
	yes	3204 (47.4)	115	1.57***	1.19 - 2.06	2.39**	1.25 - 4.59	1.49*	1.04 - 2.13	1.33	0.79 - 2.24	0.348
	no	3561 (52.6)	106	ref		ref		ref		ref		
Necessity to hide or fake emotions	yes	2813 (41.6)	86	1.31	0.98 - 1.75	1.91*	1.01 - 3.62	1.35	0.93 - 1.97	0.94	0.54 - 1.64	0.247
	no	3952 (58.4)	135	ref		ref		ref		ref		
Fear for own safety or for safety of others during work	yes	529 (7.8)	44	2.06***	1.47 - 2.88	2.60**	1.19 - 5.67	2.15***	1.39 - 3.31	1.55	0.76 - 3.17	0.610
	no	6236 (92.2)	177	ref		ref		ref		ref		
Tensions with the public	yes	728 (10.8)	29	1.63*	1.09 - 2.42	2.85**	1.34 - 6.04	1.28	0.73 - 2.24	1.62	0.69 - 3.81	0.240
	no	6037 (89.2)	192	ref		ref		ref		ref		
dimension 3: autonomy												
autonomy (at least one of the following items)												
	yes	1848 (27.3)	77	1.23	0.93 - 1.63	2.09*	1.11 - 3.94	1.15	0.79 - 1.69	0.92	0.52 - 1.64	0.150
	no	4917 (72.7)	144	ref		ref		ref		ref		
Skills not fully utilized	yes	861 (12.7)	36	1.20	0.83 - 1.72	2.14*	1.11 - 4.13	1.08	0.64 - 1.80	0.70	0.28 - 1.75	0.108
	no	5904 (87.3)	185	ref		ref		ref		ref		
No choice in how a job is done	yes	1343 (19.9)	56	1.16	0.85 - 1.58	1.44	0.73 - 2.86	1.18	0.78 - 1.78	0.95	0.51 - 1.76	0.665
	no	5422 (80.1)	165	ref		ref		ref		ref		
dimension 4: social relationships at work												
social relationships at work (at least one of the following items)												
	yes	2352 (34.8)	96	1.26	0.96 - 1.65	1.87*	1.00 - 3.51	1.07	0.75 - 1.54	1.35	0.80 - 2.29	0.311
	no	4413 (65.2)	125	ref		ref		ref		ref		
Lack of reward	yes	2198 (32.5)	89	1.24	0.95 - 1.63	1.89*	1.01 - 3.54	1.04	0.72 - 1.50	1.35	0.80 - 2.30	0.261
	no	4567 (67.5)	132	ref		ref		ref		ref		
Poor relationships with colleagues	yes	427 (6.3)	23	1.46	0.95 - 2.26	1.28	0.46 - 3.63	1.76*	1.01 - 3.07	1.07	0.43 - 2.68	0.630
	no	6338 (93.7)	198	ref		ref		ref		ref		
dimension 5: conflict of values												
conflict of values (at least one of the following items)												
	yes	1270 (18.8)	54	1.35*	1.00 - 1.84	1.71	0.85 - 3.43	1.22	0.80 - 1.85	1.41	0.77 - 2.57	0.709
	no	5495 (81.2)	167	ref		ref		ref		ref		
Necessity to undertake tasks that the person disapproves of at work	yes	421 (6.2)	20	1.30	0.82 - 2.07	2.34	0.98 - 5.59	0.93	0.45 - 1.90	1.44	0.62 - 3.38	0.274
	no	6344 (93.8)	201	ref		ref		ref		ref		
No opportunity to perform high-quality jobs	yes	1023 (15.1)	40	1.26	0.89 - 1.77	1.30	0.57 - 2.95	1.27	0.81 - 1.99	1.19	0.58 - 2.43	0.985
	no	5742 (84.9)	181	ref		ref		ref		ref		
dimension 6: job insecurity												
Fear of job loss	yes	543 (8.0)	23	1.11	0.72 - 1.71	0.63	0.19 - 2.04	1.24	0.72 - 2.13	1.27	0.51 - 3.20	0.567
	no	6222 (92.0)	198	ref		ref		ref		ref		

^aPoisson regression models with adjustment on covariates: gender, age class, occupation, job activity, history of injuries, history of precarious situation

^bWald test for interaction

^cyes Always/Often ; no Sometimes/Never

Missing values <1,3%

Supplemental Digital Content 4 Associations between exposure to psychosocial factors considered independently at baseline and occurrence of workplace injuries (WI) during the period 2006-2010 (crude & adjusted models)

		(N=6842)		model1 ^a		model2 ^b	
		WI = 225 / missing 1.1%	n (%)	IRR	IC 95%	IRR	IC 95%
dimension 1 :labour intensity and working time							
Labour intensity (at least one of the following items)							
	yes	3946 (58.3)		1.15	0.87 - 1.51	1.24	0.93 - 1.64
	no	2819 (41.7)		ref		ref	
	Work under pressure	yes	1964 (29.0)	0.85	0.63 - 1.15	0.96	0.71 - 1.30
		no	4801 (71.0)	ref		ref	
	Too many tasks to think about	yes	3012 (44.5)	0.75*	0.57 - 0.99	0.89	0.67 - 1.18
		no	3753 (55.5)	ref		ref	
	Excessive workload	yes	1524 (22.5)	1.37*	1.02 - 1.83	1.38*	1.03 - 1.85
		no	5241 (77.5)	ref		ref	
	Often more than 48 working hours in a week	yes	1130 (16.7)	1.51*	1.10 - 2.06	1.56**	1.09 - 2.25
		no	5635 (83.3)	ref		ref	
Working time (at least one of the following items)							
	yes	1975 (29.0)		1.90***	1.45 - 2.47	1.43**	1.09 - 1.88
	no	4790 (71.0)		ref		ref	
	Night work	yes	525 (7.8)	1.47	0.97 - 2.22	0.98	0.64 - 1.50
		no	6240 (92.2)	ref		ref	
	Shift work	yes	922 (13.6)	1.33	0.94 - 1.88	0.94	0.66 - 1.35
		no	5843 (86.4)	ref		ref	
	Frequent business trips	yes	261 (3.9)	1.80*	1.06 - 3.04	1.68	0.99 - 2.87
		no	6504 (96.1)	ref		ref	
	Irregular and non-predictable working hours	yes	988 (14.6)	1.80***	1.31 - 2.44	1.63**	1.18 - 2.25
		no	5777 (85.4)	ref		ref	
Work-family life imbalance							
	Difficulties reconciling work and family life	yes	685 (10.1)	1.53*	1.05 - 2.21	1.60**	1.09 - 2.33
		no	6080 (89.9)	ref		ref	
dimension 2 :emotional demand							
emotional demand (at least one of the following items)							
	yes	3204 (47.4)		1.21	0.93 - 1.57	1.57***	1.19 - 2.06
	no	3561 (52.6)		ref		ref	
	Necessity to hide or fake emotions	yes	2813 (41.6)	0.90	0.69 - 1.18	1.31	0.98 - 1.75
		no	3952 (58.4)	ref		ref	
	Fear for own safety or for safety of others during work	yes	529 (7.8)	2.91***	2.09 - 4.05	2.06***	1.47 - 2.88
		no	6236 (92.2)	ref		ref	
	Tensions with the public	yes	728 (10.8)	1.25	0.85 - 1.85	1.63*	1.09 - 2.42
		no	6037 (89.2)	ref		ref	
dimension 3: autonomy							
autonomy (at least one of the following items)							
	yes	1848 (27.3)		1.44*	1.09 - 1.89	1.23	0.93 - 1.63
	no	4917 (72.7)		ref		ref	
	Skills not fully utilized	yes	861 (12.7)	1.36	0.95 - 1.94	1.20	0.83 - 1.72
		no	5904 (87.3)	ref		ref	
	No choice in how a job is done	yes	1343 (19.9)	1.38*	1.02 - 1.87	1.16	0.85 - 1.58
		no	5422 (80.1)	ref		ref	
dimension 4: social relationships at work							
social relationships at work (at least one of the following items)							
	yes	2352 (34.8)		1.43**	1.10 - 1.87	1.26	0.96 - 1.65
	no	4413 (65.2)		ref		ref	
	Lack of reward	yes	2198 (32.5)	1.39*	1.06 - 1.82	1.24	0.95 - 1.63
		no	4567 (67.5)	ref		ref	
	Poor relationships with colleagues	yes	427 (6.3)	1.74*	1.13 - 2.68	1.46	0.95 - 2.26
		no	6338 (93.7)	ref		ref	
dimension 5: conflict of values							
conflict of values (at least one of the following items)							
	yes	1270 (18.8)		1.39*	1.02 - 1.89	1.35*	1.00 - 1.84
	no	5495 (81.2)		ref		ref	
	Necessity to undertake tasks that the person disapproves of at work	yes	421 (6.2)	1.50	0.95 - 2.37	1.30	0.82 - 2.07
		no	6344 (93.8)	ref		ref	
	No opportunity to perform high-quality jobs	yes	1023 (15.1)	1.24	0.88 - 1.74	1.26	0.89 - 1.77
		no	5742 (84.9)	ref		ref	
dimension 6: job insecurity							
	Fear of job loss	yes	543 (8.0)	1.36	0.88 - 2.09	1.11	0.72 - 1.71
		no	6222 (92.0)	ref		ref	

^a Poisson regression models with no adjustment

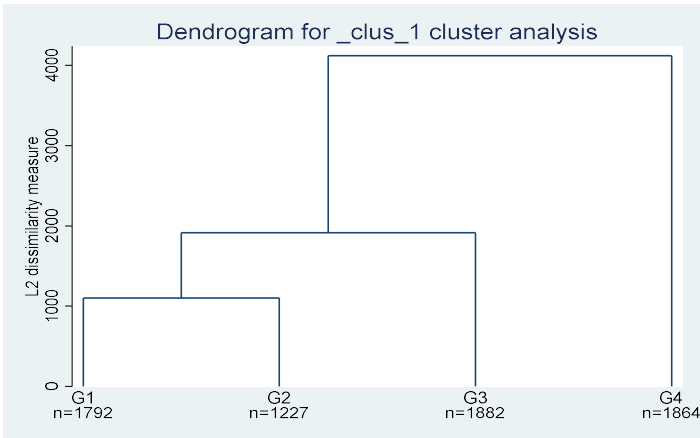
^b Poisson regression models with adjustment on covariates: gender, age class, occupation, job activity, history of injuries, history of precarious situation

^c yes Always/Often ; no Sometimes/Never

Missing values <1,3%

Supplemental Digital Content 5 Hierarchical agglomerative clustering for physical and psychosocial risk factors according to the Ward method with Euclidean distance dissimilarity measure

SDC 5a. Hierarchical agglomerative clustering for physical risk factors according to the Ward method with Euclidean distance dissimilarity measure

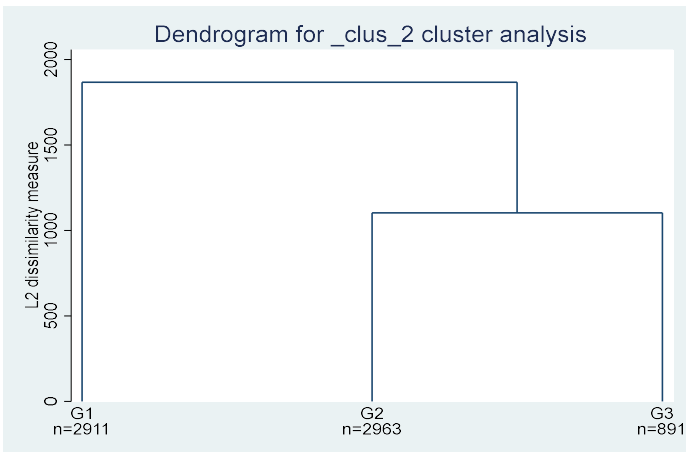


means of physical factors items (1-4)

Cluster	G4	G1	G2	G3
Frequency	1864	1792	1227	1882
loud noise	1.00	1.33	1.51	2.38
intensive vibrations	1.00	1.09	1.25	1.87
heavy loads	1.00	1.47	2.06	2.38
extreme temperatures	1.00	1.37	1.80	3.38
uncomfortable postures	1.00	1.74	3.48	2.79
repetitive tasks	1.00	1.79	1.06	2.15

label	G4	non-exposed
	G1	low exposure & repetitive tasks
	G2	moderate exposure, heavy loads & uncomfortable postures
	G3	multiple exposure

SDC 5b. Hierarchical agglomerative clustering for psychosocial factors according to the Ward method with Euclidean distance dissimilarity measure



means of psychosocial factors items (1-4)

Cluster	G1	G3	G2
Frequency	2911	891	2963
Work under pressure	1.56	2.11	2.39
Too many tasks to think about	1.99	2.26	2.73
Excessive quantity of work	1.49	2.00	2.12
Often more than 48 working hours in a week	1.21	1.30	2.01
Night work	1.05	1.93	1.32
Shift work	1.02	3.82	1.08
Frequent business trips	1.13	1.13	1.27
Irregular and non-predictable working hours	1.23	1.62	1.73
Difficulties reconciling work and family life	1.25	1.42	1.63
Necessity to hide or fake emotions	1.83	2.30	2.72
Fear for own safety or for safety of others during work	1.26	1.65	1.56
Tensions with the public	1.39	1.63	1.72
Skills not fully utilized	1.38	1.64	1.63
No choice in how a job is done	1.23	2.00	2.03
Lack of reward	1.78	2.19	2.28
Poor relationships with colleagues	1.21	1.36	1.39
Necessity to undertake tasks that the person disapproves of at work	1.23	1.52	1.55
No opportunity to perform high-quality jobs	1.45	1.73	1.81
Fear of job loss	1.17	1.48	1.46

label	G1	low PSF exposure
	G3	fear for safety & specific schedules
	G2	high job & emotional demand