

Supplementary material

Organisational changes and depression: the mediating role of psychosocial work exposures in the SUMER study

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Supplementary References

Supplementary Figure S1

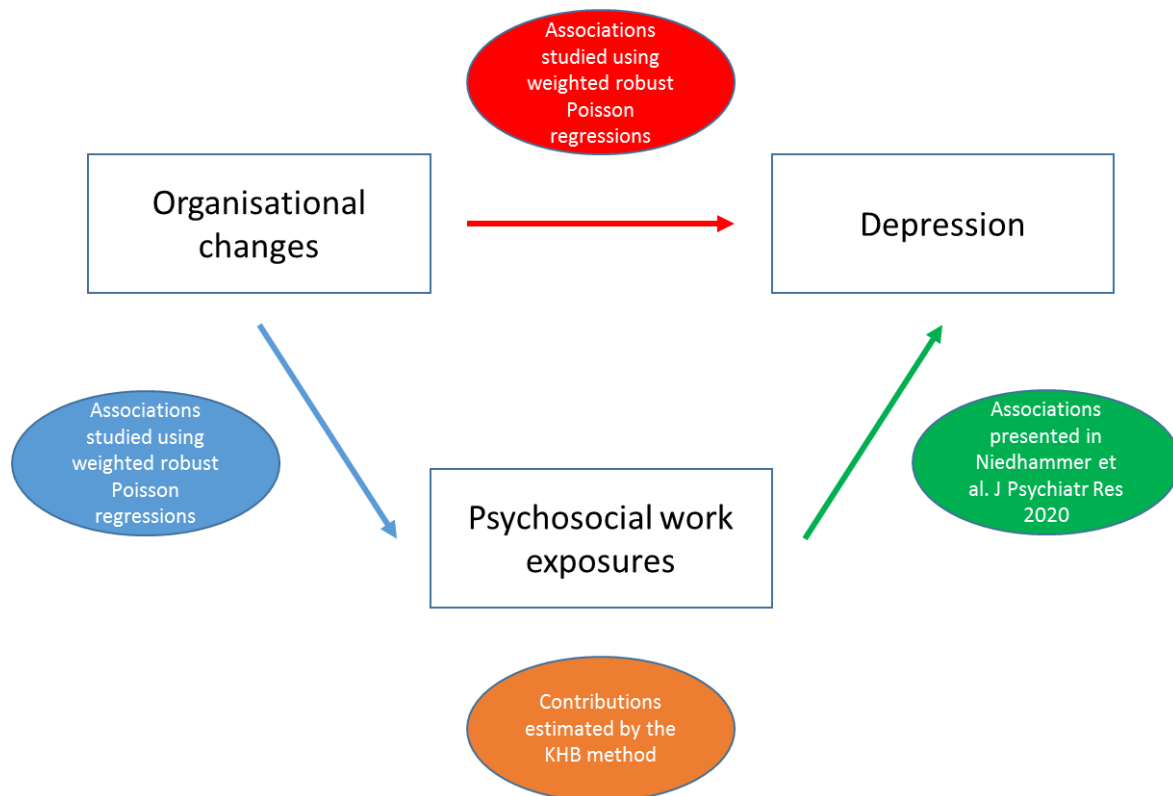
Supplementary Tables S1-S15

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Supplementary Figure S1. Summary of the statistical analyses to study the direct and indirect effects of organisational changes on depression and the mediating role of psychosocial work exposures



Supplementary Table S1. Tetrachoric correlation coefficients between organisational changes among the study sample

	Change of position/function	Technological change	Restructuring or relocation	Change in work organisation	Redundancy plan	Buyout or change in the management team	Change in the persons
Change of position/function	1						
Technological change	0.556	1					
Restructuring or relocation	0.375	0.331	1				
Change in work organisation	0.469	0.510	0.600	1			
Redundancy plan	0.194	0.207	0.490	0.404	1		
Buyout or change in the management team	0.130	0.162	0.437	0.450	0.469	1	
Change in the persons	0.444	0.304	0.332	0.423	0.283	0.356	1

All correlation coefficients were significant at $p < 0.001$

Supplementary Table S2. Internal consistency and prevalence of psychosocial work exposures among the study sample

		Total sample N=25977	Men N=14682	Women N=11295	
	Number of items	Cronbach alpha ^a	n (%)	n (%)	P-value
Low skill discretion (subscale)	6	0.692	6937 (49.1%)	6237 (57.4%)	< 0.001
Low decision authority (subscale)	3	0.607	8481 (59.2%)	7092 (62.9%)	< 0.001
Low decision latitude	9	0.745	6638 (47.9%)	5976 (54.3%)	< 0.001
High psychological demands	9	0.814	7013 (45.0%)	5875 (47.3%)	0.039
Low supervisor support (subscale)	4	0.880	5642 (38.4%)	4493 (38.8%)	0.693
Low colleague support (subscale)	4	0.830	8949 (61.4%)	6778 (59.3%)	0.058
Low social support	8	0.843	5547 (38.3%)	4322 (37.8%)	0.632
Low esteem (subscale)	5	0.808	7896 (53.5%)	5752 (49.2%)	< 0.001
Low job promotion (subscale)	4	0.769	7064 (46.4%)	5882 (49.9%)	0.002
Low job security (subscale)	2	0.571	5340 (36.6%)	3788 (33.3%)	0.004
Low reward	11	0.845	6800 (45.5%)	5462 (47.2%)	0.144
Bullying ^b	9	-	2207 (15.9%)	1976 (16.4%)	0.569
Verbal aggression ^b	2	-	2246 (15.9%)	2472 (20.9%)	< 0.001
Physical/sexual aggression ^b	2	-	222 (1.6%)	193 (1.8%)	0.446
Work-family conflict	1	-	5576 (37.4%)	4169 (36.8%)	0.571
Ethical conflict	1	-	4846 (33.4%)	3588 (30.4%)	0.005
Temporary work	1	-	867 (11.9%)	756 (10.3%)	0.087
Teleworking	1	-	523 (3.3%)	365 (2.9%)	0.356
Lean ^b	4	-	7167 (40.8%)	4190 (32.9%)	< 0.001
Low meaning	1	-	9297 (63.5%)	6550 (58.1%)	< 0.001
Long working hours	1	-	1503 (8.9%)	575 (4.0%)	< 0.001

^a Cronbach alphas were calculated for psychosocial work exposures defined by sum scores, which were thereafter dichotomised at the median of the distribution

^b The exposure was defined by the exposure to at least one item

n: unweighted numbers, %: weighted percentages

P-value for the comparison between genders (Rao-Scott Chi-2 test)

Supplementary Table S3. Tetrachoric correlation coefficients between psychosocial work exposures among the study sample

	Low skill discretion	Low decision authority	Low decision latitude	High psychological demands	Low supervisor support	Low colleague support	Low social support	Low esteem	Low job promotion	Low job security	Low reward	Bullying	Verbal aggression	Physical/sexual aggression	Work-family conflict	Ethical conflict	Temporary work	Teleworking	Lean	Low meaning	Long working hours	
Low skill discretion	1																					
Low decision authority	0.559	1																				
Low decision latitude	0.893	0.902	1																			
High psychological demands	-0.145	0.028	-0.039	1																		
Low supervisor support	0.256	0.261	0.307	0.379	1																	
Low colleague support	0.311	0.281	0.318	0.048	0.296	1																
Low social support	0.307	0.294	0.348	0.304	0.925	0.678	1															
Low esteem	0.171	0.222	0.248	0.463	0.711	0.282	0.695	1														
Low job promotion	0.174	0.179	0.189	0.386	0.485	0.138	0.430	0.597	1													
Low job security	0.065	0.150	0.139	0.312	0.380	0.145	0.343	0.462	0.413	1												
Low reward	0.175	0.209	0.229	0.481	0.618	0.180	0.563	0.818	0.919	0.624	1											
Bullying	0.119	0.157	0.166	0.405	0.459	0.216	0.486	0.548	0.355	0.356	0.498	1										
Verbal aggression	0.083	0.073	0.086	0.297	0.276	0.086	0.272	0.342	0.282	0.205	0.358	0.431	1									
Physical/sexual aggression	0.099	0.110	0.105	0.111	0.180	-0.042	0.124	0.162	0.242	0.093	0.249	0.145	0.675	1								
Work-family conflict	-0.210	-0.108	-0.170	0.400	0.112	0.021	0.102	0.208	0.121	0.128	0.168	0.165	0.175	0.183	1							
Ethical conflict	-0.006	0.088	0.052	0.397	0.325	0.122	0.321	0.431	0.292	0.335	0.392	0.367	0.347	0.242	0.244	1						
Temporary work	0.082	0.189	0.166	-0.156	-0.083	-0.130	-0.118	-0.105	-0.108	0.145	-0.089	-0.055	-0.075	-0.100	-0.141	-0.036	1					
Teleworking	-0.240	-0.229	-0.252	0.178	-0.072	0.039	-0.031	-0.011	0.071	0.114	0.057	-0.011	0.014	-0.150	0.160	-0.025	-0.072	1				
Lean	-0.083	-0.030	-0.053	0.181	-0.050	0.023	-0.050	0.035	0.022	0.046	0.034	0.003	-0.033	-0.085	0.026	0.037	-0.134	0.091	1			
Low meaning	0.451	0.336	0.422	-0.021	0.181	0.340	0.233	0.135	0.042	0.088	0.076	0.027	-0.057	-0.108	-0.161	0.046	0.035	-0.022	-0.006	1		
Long working hours	-0.309	-0.247	-0.311	0.298	-0.005	-0.053	-0.018	0.035	-0.068	0.043	-0.021	0.002	0.023	0.008	0.484	0.100	-0.065	0.294	0.110	-0.118	1	

All correlation coefficients were significant at $p < 0.05$ except between Low skill discretion & Ethical conflict, between Low supervisor support & Long working hours, between Low esteem & Teleworking, between Bullying & Teleworking, between Bullying & Lean, between Bullying & Long working hours, between Physical/sexual aggression & Long working hours, and between Lean & Low meaning

Supplementary Table S4. Associations between covariates and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses (each covariate was studied separately)

	PR (95% CI)	P-value
Gender		<0.001
Men	1	
Women	1.52 (1.34 ; 1.72)	
Age (years)		0.618
<30	1	
30-39	1.05 (0.86 ; 1.27)	
40-49	0.99 (0.81 ; 1.21)	
50 or more	0.94 (0.78 ; 1.14)	
Marital status		<0.001
With partner	1	
Without partner	1.38 (1.22 ; 1.57)	
Occupation		0.002
Managers/professionals	1	
Associate professionals	1.29 (1.09 ; 1.54)	
Clerks/service workers	1.39 (1.17 ; 1.65)	
Blue collar workers	1.22 (1.01 ; 1.48)	
Economic activity of the company		<0.001
Manufacturing	1	
Agriculture	0.41 (0.23 ; 0.74)	
Construction	0.66 (0.49 ; 0.90)	
Services	1.12 (0.95 ; 1.32)	

PR: prevalence ratio

Supplementary Table S5. P-values for gender-related interactions in the associations between organisational changes and depression (PHQ-9 sum score ≥ 10) among the study sample

	Before adjustment for covariates	After adjustment for covariates ^a
	P-value	P-value
Any organisational change	0.686	0.755
Change of position/function	0.780	0.870
Technological change	0.514	0.643
Restructuring or relocation	0.563	0.698
Change in work organisation	0.291	0.360
Redundancy plan	0.532	0.464
Buyout or change in the management team	0.633	0.658
Change in the persons	0.886	0.940

^a Covariates included: gender, age, marital status, occupation, and economic activity

Supplementary Table S6. Sensitivity analyses of the associations between organisational changes within the last 12 months and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses adjusted for covariates^a (each organisational change was studied separately)

	Additional adjustment for public/private sector		Additional adjustment for company size		Additional adjustment for chronic disease	
	PR (95% CI)	P-value	PR (95% CI)	P-value	PR (95% CI)	P-value
Any organisational change	1.85 (1.61 ; 2.13)	<0.001	1.79 (1.53 ; 2.11)	<0.001	1.79 (1.56 ; 2.06)	<0.001
Change of position/function	1.56 (1.36 ; 1.80)	<0.001	1.62 (1.39 ; 1.89)	<0.001	1.51 (1.31 ; 1.74)	<0.001
Technological change	1.51 (1.31 ; 1.74)	<0.001	1.40 (1.19 ; 1.64)	<0.001	1.46 (1.27 ; 1.68)	<0.001
Restructuring or relocation	1.27 (1.09 ; 1.48)	0.002	1.26 (1.07 ; 1.49)	0.006	1.27 (1.09 ; 1.48)	0.002
Change in work organisation	1.71 (1.50 ; 1.96)	<0.001	1.72 (1.49 ; 1.99)	<0.001	1.63 (1.43 ; 1.85)	<0.001
Redundancy plan	1.41 (1.07 ; 1.87)	0.015	1.39 (1.01 ; 1.91)	0.042	1.40 (1.06 ; 1.83)	0.017
Buyout or change in the management team	1.42 (1.21 ; 1.66)	<0.001	1.34 (1.13 ; 1.60)	<0.001	1.39 (1.20 ; 1.61)	<0.001
Change in the persons	1.52 (1.34 ; 1.72)	<0.001	1.49 (1.29 ; 1.71)	<0.001	1.49 (1.32 ; 1.69)	<0.001
Number of organisational changes ^b		<0.001		<0.001		<0.001
0	1		1		1	
1	1.58 (1.33 ; 1.87)	<0.001	1.49 (1.22 ; 1.81)	<0.001	1.54 (1.30 ; 1.83)	<0.001
2	1.78 (1.47 ; 2.15)	<0.001	1.78 (1.44 ; 2.21)	<0.001	1.74 (1.43 ; 2.10)	<0.001
3 or more	2.30 (1.94 ; 2.71)	<0.001	2.26 (1.87 ; 2.73)	<0.001	2.18 (1.86 ; 2.57)	<0.001

^a Covariates included: gender, age, marital status, occupation, and economic activity

^b Tests for linear trend were significant at $p < 0.001$ between the number of organisational changes and depression

PR: prevalence ratio

Supplementary Table S7. Sensitivity analyses of the associations between organisational changes within the last 12 months and depression (PHQ-9 sum score ≥ 10 , unless specified otherwise): results from weighted robust Poisson regression analyses adjusted for covariates^a (each organisational change was studied separately)

	Among the subsample of employees working full time		Statistical analysis without weights		Statistical analysis with depression defined by the PHQ-9 algorithm	
	PR (95% CI)	P-value	PR (95% CI)	P-value	OR (95% CI)	P-value
Any organisational change	1.74 (1.49 ; 2.02)	< 0.001	1.77 (1.63 ; 1.92)	< 0.001	2.00 (1.59 ; 2.51)	< 0.001
Change of position/function	1.43 (1.23 ; 1.67)	< 0.001	1.58 (1.46 ; 1.71)	< 0.001	1.69 (1.35 ; 2.13)	< 0.001
Technological change	1.50 (1.29 ; 1.74)	< 0.001	1.56 (1.44 ; 1.69)	< 0.001	1.64 (1.30 ; 2.08)	< 0.001
Restructuring or relocation	1.22 (1.03 ; 1.45)	0.019	1.41 (1.29 ; 1.54)	< 0.001	1.60 (1.26 ; 2.05)	< 0.001
Change in work organisation	1.66 (1.43 ; 1.93)	< 0.001	1.62 (1.51 ; 1.74)	< 0.001	2.13 (1.73 ; 2.62)	< 0.001
Redundancy plan	1.34 (0.99 ; 1.81)	0.055	1.55 (1.31 ; 1.84)	< 0.001	1.50 (0.94 ; 2.38)	0.087
Buyout or change in the management team	1.42 (1.19 ; 1.69)	< 0.001	1.42 (1.30 ; 1.54)	< 0.001	1.39 (1.10 ; 1.75)	0.006
Change in the persons	1.39 (1.21 ; 1.60)	< 0.001	1.45 (1.35 ; 1.55)	< 0.001	1.71 (1.40 ; 2.09)	< 0.001
Number of organisational changes ^b		< 0.001		< 0.001		< 0.001
0	1		1		1	
1	1.54 (1.28 ; 1.85)	< 0.001	1.45 (1.32 ; 1.61)	< 0.001	1.62 (1.23 ; 2.13)	< 0.001
2	1.56 (1.27 ; 1.92)	< 0.001	1.75 (1.57 ; 1.94)	< 0.001	1.74 (1.28 ; 2.37)	< 0.001
3 or more	2.14 (1.78 ; 2.57)	< 0.001	2.20 (2.00 ; 2.42)	< 0.001	2.82 (2.17 ; 3.67)	< 0.001

^a Covariates included: gender, age, marital status, occupation, and economic activity

^b Tests for linear trend were significant at $p < 0.001$ between the number of organisational changes and depression

PR: prevalence ratio

OR: odds-ratio (weighted logistic regression analysis, as the prevalence of depression using the PHQ-9 algorithm was about 5%)

Supplementary Table S8. Contribution of the main dimensions of decision latitude, social support, and reward in the associations between organisational changes and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with organisational change PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure % ^a	P-value of contribution
ANY ORGANISATIONAL CHANGE				
Model 0	1.85 (1.61 ; 2.13)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.83 (1.59 ; 2.11)	<0.001	0.8	0.375
Low social support	1.68 (1.46 ; 1.94)	<0.001	12.6	<0.001
Low reward	1.57 (1.36 ; 1.81)	<0.001	30.1	<0.001
CHANGE OF POSITION/FUNCTION				
Model 0	1.57 (1.36 ; 1.80)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.56 (1.35 ; 1.80)	<0.001	-0.8	0.581
Low social support	1.49 (1.30 ; 1.71)	<0.001	6.6	0.070
Low reward	1.51 (1.30 ; 1.74)	<0.001	9.2	0.061
TECHNOLOGICAL CHANGE				
Model 0	1.51 (1.31 ; 1.74)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.49 (1.30 ; 1.72)	<0.001	1.0	0.597
Low social support	1.43 (1.24 ; 1.65)	<0.001	12.4	0.007
Low reward	1.36 (1.18 ; 1.57)	<0.001	27.6	<0.001
RESTRUCTURING/RELOCATION				
Model 0	1.27 (1.09 ; 1.48)	0.002		
Models 1 (with each exposure)				
Low decision latitude	1.26 (1.09 ; 1.47)	0.002	4.9	0.092
Low social support	1.21 (1.04 ; 1.40)	0.015	22.1	0.002
Low reward	1.11 (0.96 ; 1.29)	0.158	63.2	<0.001
CHANGE IN WORK ORGANISATION				
Model 0	1.72 (1.50 ; 1.96)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.69 (1.48 ; 1.94)	<0.001	1.8	0.122
Low social support	1.54 (1.35 ; 1.77)	<0.001	17.8	<0.001
Low reward	1.46 (1.28 ; 1.67)	<0.001	37.3	<0.001
REDUNDANCY PLAN				
Model 0	1.40 (1.06 ; 1.85)	0.017		
Models 1 (with each exposure)				
Low decision latitude	1.37 (1.04 ; 1.81)	0.026	-2.3	0.637
Low social support	1.38 (1.06 ; 1.81)	0.019	5.4	0.593
Low reward	1.16 (0.88 ; 1.54)	0.295	61.3	<0.001
BUYOUT/CHANGE IN THE MANAGEMENT TEAM				
Model 0	1.42 (1.21 ; 1.66)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.39 (1.18 ; 1.63)	<0.001	4.7	0.035
Low social support	1.32 (1.13 ; 1.54)	<0.001	16.4	0.002
Low reward	1.23 (1.06 ; 1.43)	0.008	52.4	<0.001
CHANGE IN THE PERSONS				
Model 0	1.53 (1.35 ; 1.73)	<0.001		
Models 1 (with each exposure)				
Low decision latitude	1.52 (1.34 ; 1.73)	<0.001	-0.2	0.845
Low social support	1.39 (1.23 ; 1.58)	<0.001	16.4	<0.001
Low reward	1.31 (1.16 ; 1.49)	<0.001	38.6	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

PR: prevalence ratio

Supplementary Table S9. Contribution of psychosocial work exposures in the association between change of position/function and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with change of position/function PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.57 (1.36 ; 1.80)	<0.001		
Models 1 (with each exposure)				
Low skill discretion	1.58 (1.37 ; 1.82)	<0.001	-2.6	0.022
Low decision authority	1.54 (1.34 ; 1.78)	<0.001	1.3	0.413
High psychological demands	1.41 (1.22 ; 1.62)	<0.001	23.9	<0.001
Low supervisor support	1.50 (1.30 ; 1.73)	<0.001	5.4	0.117
Low colleague support	1.55 (1.35 ; 1.79)	<0.001	1.6	0.386
Low esteem	1.46 (1.27 ; 1.68)	<0.001	16.6	<0.001
Low job promotion	1.55 (1.35 ; 1.79)	<0.001	-1.4	0.726
Low job security	1.44 (1.24 ; 1.67)	<0.001	18.3	<0.001
Bullying	1.45 (1.27 ; 1.67)	<0.001	11.0	0.002
Verbal aggression	1.49 (1.29 ; 1.72)	<0.001	8.9	<0.001
Physical/sexual aggression	1.56 (1.36 ; 1.80)	<0.001	0.4	0.450
Work-family conflict	1.51 (1.32 ; 1.74)	<0.001	8.3	0.002
Ethical conflict	1.45 (1.26 ; 1.67)	<0.001	16.0	<0.001
Temporary work	1.59 (1.38 ; 1.82)	<0.001	-3.3	0.045
Teleworking	1.56 (1.36 ; 1.80)	<0.001	0.7	0.211
Lean	1.54 (1.34 ; 1.78)	<0.001	3.6	0.024
Low meaning	1.56 (1.36 ; 1.80)	<0.001	0.4	0.622
Long working hours	1.56 (1.35 ; 1.79)	<0.001	0.9	0.069
Model 2 (with all exposures)	1.27 (1.11 ; 1.46)	<0.001	46.7 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (46.7 %) of all psychosocial work exposures (Model 2) was the following: High psychological demands (8.8%), Low esteem (9.2%), Low job security (8.8%), Bullying (5.6%), Verbal aggression (1.4%), Work-family conflict (5.0%), Ethical conflict (5.7%), Lean (2.1%)

PR: prevalence ratio

Supplementary Table S10. Contribution of psychosocial work exposures in the association between technological change and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with technological change PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.51 (1.31 ; 1.74)	<0.001		
Models 1 (with each exposure)				
Low skill discretion	1.53 (1.32 ; 1.76)	<0.001	-2.5	0.046
Low decision authority	1.48 (1.28 ; 1.70)	<0.001	3.9	0.042
High psychological demands	1.30 (1.14 ; 1.50)	<0.001	36.5	<0.001
Low supervisor support	1.47 (1.27 ; 1.70)	<0.001	7.4	0.082
Low colleague support	1.49 (1.29 ; 1.72)	<0.001	3.4	0.125
Low esteem	1.35 (1.17 ; 1.56)	<0.001	29.6	<0.001
Low job promotion	1.42 (1.24 ; 1.63)	<0.001	15.1	0.001
Low job security	1.36 (1.17 ; 1.58)	<0.001	24.5	<0.001
Bullying	1.36 (1.19 ; 1.55)	<0.001	18.7	<0.001
Verbal aggression	1.39 (1.21 ; 1.60)	<0.001	16.5	<0.001
Physical/sexual aggression	1.50 (1.30 ; 1.73)	<0.001	0.8	0.221
Work-family conflict	1.45 (1.26 ; 1.67)	<0.001	7.7	0.018
Ethical conflict	1.35 (1.18 ; 1.55)	<0.001	20.5	<0.001
Temporary work	1.50 (1.31 ; 1.73)	<0.001	0.9	0.432
Teleworking	1.51 (1.30 ; 1.74)	<0.001	0.8	0.183
Lean	1.47 (1.27 ; 1.70)	<0.001	5.4	0.028
Low meaning	1.51 (1.31 ; 1.75)	<0.001	-0.5	0.629
Long working hours	1.50 (1.30 ; 1.73)	<0.001	-0.1	0.849
Model 2 (with all exposures)	1.09 (0.95 ; 1.24)	0.209	75.7 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (75.7 %) of all psychosocial work exposures (Model 2) was the following: Low decision authority (2.3%), High psychological demands (14.0%), Low esteem (15.1%), Low job promotion (6.2%), Low job security (11.3%), Bullying (8.7%), Verbal aggression (2.4%), Work-family conflict (4.9%), Ethical conflict (7.2%), Lean (3.7%)

PR: prevalence ratio

Supplementary Table S11. Contribution of psychosocial work exposures in the association between restructuring/relocation and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with restructuring/relocation PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) % ^a	P-value of contribution
Model 0	1.27 (1.09 ; 1.48)	0.002		
Models 1 (with each exposure)				
Low skill discretion	1.27 (1.09 ; 1.48)	0.002	0.2	0.903
Low decision authority	1.25 (1.08 ; 1.45)	0.004	8.4	0.008
High psychological demands	1.12 (0.97 ; 1.30)	0.123	55.1	<0.001
Low supervisor support	1.18 (1.02 ; 1.38)	0.029	28.4	<0.001
Low colleague support	1.26 (1.08 ; 1.46)	0.003	7.3	0.044
Low esteem	1.14 (0.98 ; 1.32)	0.082	49.3	<0.001
Low job promotion	1.16 (1.00 ; 1.34)	0.050	43.6	<0.001
Low job security	1.11 (0.96 ; 1.29)	0.159	58.5	<0.001
Bullying	1.14 (0.99 ; 1.32)	0.073	35.7	<0.001
Verbal aggression	1.20 (1.04 ; 1.40)	0.015	17.9	<0.001
Physical/sexual aggression	1.27 (1.09 ; 1.48)	0.002	0.9	0.418
Work-family conflict	1.23 (1.06 ; 1.43)	0.005	14.9	0.005
Ethical conflict	1.15 (0.99 ; 1.33)	0.068	38.5	<0.001
Temporary work	1.27 (1.09 ; 1.48)	0.003	3.4	0.091
Teleworking	1.27 (1.09 ; 1.48)	0.002	1.5	0.175
Lean	1.25 (1.07 ; 1.45)	0.005	9.0	0.012
Low meaning	1.28 (1.10 ; 1.49)	0.002	0.6	0.685
Long working hours	1.27 (1.09 ; 1.48)	0.002	1.6	0.134
Model 2 (with all exposures)	0.93 (0.82 ; 1.07)	0.327	127.1 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (127.1 %) of all psychosocial work exposures (Model 2) was the following: Low decision authority (3.4%), High psychological demands (18.3%), Low supervisor support (4.0%), Low colleague support (2.2%), Low esteem (19.8%), Low job promotion (15.1%), Low job security (23.7%), Bullying (13.7%), Verbal aggression (1.9%), Work-family conflict (8.8%), Ethical conflict (11.2%), Lean (4.9%)

PR: prevalence ratio

Supplementary Table S12. Contribution of psychosocial work exposures in the association between change in work organisation and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with change in work organisation PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.72 (1.50 ; 1.96)	<0.001		
Models 1 (with each exposure)				
Low skill discretion	1.73 (1.51 ; 1.97)	<0.001	-1.2	0.130
Low decision authority	1.66 (1.45 ; 1.90)	<0.001	5.0	<0.001
High psychological demands	1.46 (1.29 ; 1.66)	<0.001	32.3	<0.001
Low supervisor support	1.53 (1.33 ; 1.75)	<0.001	20.5	<0.001
Low colleague support	1.67 (1.46 ; 1.91)	<0.001	5.0	0.001
Low esteem	1.46 (1.28 ; 1.67)	<0.001	35.2	<0.001
Low job promotion	1.54 (1.35 ; 1.75)	<0.001	23.7	<0.001
Low job security	1.47 (1.28 ; 1.68)	<0.001	31.7	<0.001
Bullying	1.47 (1.29 ; 1.68)	<0.001	22.6	<0.001
Verbal aggression	1.58 (1.38 ; 1.80)	<0.001	13.0	<0.001
Physical/sexual aggression	1.70 (1.49 ; 1.95)	<0.001	0.9	0.062
Work-family conflict	1.64 (1.44 ; 1.86)	<0.001	8.4	<0.001
Ethical conflict	1.48 (1.30 ; 1.68)	<0.001	23.6	<0.001
Temporary work	1.71 (1.49 ; 1.95)	<0.001	1.5	0.096
Teleworking	1.71 (1.50 ; 1.96)	<0.001	0.6	0.245
Lean	1.69 (1.47 ; 1.94)	<0.001	3.2	0.062
Low meaning	1.73 (1.51 ; 1.97)	<0.001	0.0	0.966
Long working hours	1.70 (1.48 ; 1.94)	<0.001	0.8	0.061
Model 2 (with all exposures)	1.13 (1.00 ; 1.29)	0.056	76.7 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (76.7 %) of all psychosocial work exposures (Model 2) was the following: Low decision authority (2.2%), High psychological demands (11.1%), Low supervisor support (3.3%), Low colleague support (1.6%), Low esteem (14.0%), Low job promotion (8.2%), Low job security (13.0%), Bullying (9.4%), Verbal aggression (1.3%), Work-family conflict (5.4%), Ethical conflict (7.2%)

PR: prevalence ratio

Supplementary Table S13. Contribution of psychosocial work exposures in the association between redundancy plan and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with redundancy plan PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.40 (1.06 ; 1.85)	0.017		
Models 1 (with each exposure)				
Low skill discretion	1.40 (1.06 ; 1.85)	0.017	0.3	0.888
Low decision authority	1.35 (1.02 ; 1.78)	0.035	2.4	0.617
High psychological demands	1.21 (0.91 ; 1.60)	0.181	48.0	<0.001
Low supervisor support	1.38 (1.03 ; 1.83)	0.029	8.3	0.400
Low colleague support	1.39 (1.06 ; 1.82)	0.017	2.9	0.590
Low esteem	1.23 (0.94 ; 1.63)	0.137	44.9	<0.001
Low job promotion	1.20 (0.91 ; 1.58)	0.207	47.2	<0.001
Low job security	1.10 (0.83 ; 1.47)	0.508	74.7	<0.001
Bullying	1.30 (1.01 ; 1.66)	0.038	19.1	0.106
Verbal aggression	1.28 (0.95 ; 1.71)	0.101	22.4	0.005
Physical/sexual aggression	1.40 (1.06 ; 1.85)	0.018	1.0	0.472
Work-family conflict	1.33 (1.00 ; 1.75)	0.046	13.2	0.109
Ethical conflict	1.25 (0.94 ; 1.67)	0.124	34.8	<0.001
Temporary work	1.41 (1.07 ; 1.85)	0.015	0.0	0.986
Teleworking	1.38 (1.04 ; 1.83)	0.026	6.0	0.138
Lean	1.36 (1.04 ; 1.79)	0.027	8.2	0.015
Low meaning	1.40 (1.07 ; 1.84)	0.016	0.3	0.912
Long working hours	1.34 (1.01 ; 1.78)	0.041	2.7	0.161
Model 2 (with all exposures)	0.96 (0.71 ; 1.30)	0.789	109.6 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (109.6 %) of all psychosocial work exposures (Model 2) was the following: High psychological demands (19.2%), Low esteem (21.3%), Low job promotion (15.4%), Low job security (32.2%), Verbal aggression (5.6%), Ethical conflict (12.4%), Lean (3.5%)

PR: prevalence ratio

Supplementary Table S14. Contribution of psychosocial work exposures in the association between buyout/change in the management team and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with buyout/change in the management team PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.42 (1.21 ; 1.66)	<0.001		
Models 1 (with each exposure)				
Low skill discretion	1.41 (1.21 ; 1.65)	<0.001	1.2	0.313
Low decision authority	1.37 (1.17 ; 1.59)	<0.001	10.2	<0.001
High psychological demands	1.26 (1.09 ; 1.47)	0.002	34.9	<0.001
Low supervisor support	1.27 (1.09 ; 1.49)	0.002	24.6	<0.001
Low colleague support	1.39 (1.19 ; 1.62)	<0.001	8.8	<0.001
Low esteem	1.26 (1.08 ; 1.46)	0.003	42.2	<0.001
Low job promotion	1.25 (1.07 ; 1.45)	0.004	39.3	<0.001
Low job security	1.28 (1.10 ; 1.49)	0.002	35.6	<0.001
Bullying	1.27 (1.09 ; 1.49)	0.002	23.8	<0.001
Verbal aggression	1.33 (1.14 ; 1.56)	<0.001	14.8	<0.001
Physical/sexual aggression	1.41 (1.21 ; 1.65)	<0.001	1.1	0.189
Work-family conflict	1.38 (1.19 ; 1.60)	<0.001	10.2	0.004
Ethical conflict	1.28 (1.10 ; 1.50)	0.001	28.5	<0.001
Temporary work	1.40 (1.20 ; 1.63)	<0.001	4.4	0.036
Teleworking	1.42 (1.21 ; 1.66)	<0.001	1.0	0.171
Lean	1.39 (1.19 ; 1.63)	<0.001	4.5	0.019
Low meaning	1.43 (1.22 ; 1.67)	<0.001	0.1	0.959
Long working hours	1.40 (1.20 ; 1.64)	<0.001	0.4	0.539
Model 2 (with all exposures)	1.01 (0.87 ; 1.17)	0.882	97.0 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (97.0 %) of all psychosocial work exposures (Model 2) was the following: Low decision authority (4.1%), High psychological demands (11.0%), Low supervisor support (3.9%), Low colleague support (2.4%), Low esteem (16.1%), Low job promotion (12.7%), Low job security (14.9%), Bullying (9.8%), Verbal aggression (1.5%), Work-family conflict (6.2%), Ethical conflict (9.3%), Temporary work (3.2%), Lean (2.1%)

PR: prevalence ratio

Supplementary Table S15. Contribution of psychosocial work exposures in the association between change in the persons and depression (PHQ-9 sum score ≥ 10): results from weighted robust Poisson regression analyses and the KHB method

	PR of depression associated with change in the persons PR (95% CI)	P-value of PR	Contribution of psychosocial work exposure(s) %^a	P-value of contribution
Model 0	1.53 (1.35 ; 1.73)	<0.001		
Models 1 (with each exposure)				
Low skill discretion	1.53 (1.35 ; 1.74)	<0.001	-1.2	0.124
Low decision authority	1.51 (1.33 ; 1.71)	<0.001	2.4	0.067
High psychological demands	1.30 (1.14 ; 1.47)	<0.001	40.0	<0.001
Low supervisor support	1.39 (1.22 ; 1.57)	<0.001	19.2	<0.001
Low colleague support	1.50 (1.32 ; 1.70)	<0.001	3.1	0.047
Low esteem	1.32 (1.17 ; 1.50)	<0.001	36.6	<0.001
Low job promotion	1.36 (1.20 ; 1.54)	<0.001	28.1	<0.001
Low job security	1.44 (1.27 ; 1.63)	<0.001	17.2	<0.001
Bullying	1.34 (1.18 ; 1.52)	<0.001	24.1	<0.001
Verbal aggression	1.40 (1.23 ; 1.60)	<0.001	16.4	<0.001
Physical/sexual aggression	1.51 (1.33 ; 1.71)	<0.001	1.4	0.012
Work-family conflict	1.45 (1.28 ; 1.65)	<0.001	12.7	<0.001
Ethical conflict	1.37 (1.21 ; 1.56)	<0.001	22.9	<0.001
Temporary work	1.52 (1.34 ; 1.73)	<0.001	0.6	0.407
Teleworking	1.53 (1.35 ; 1.73)	<0.001	0.3	0.278
Lean	1.51 (1.33 ; 1.71)	<0.001	3.1	0.027
Low meaning	1.54 (1.36 ; 1.74)	<0.001	-1.7	0.044
Long working hours	1.52 (1.34 ; 1.72)	<0.001	1.1	0.034
Model 2 (with all exposures)	1.06 (0.94 ; 1.21)	0.343	83.5 ^b	<0.001

Model 0 included organisational change and covariates (gender, age, marital status, occupation, economic activity)

Models 1: each psychosocial work exposure was added separately to Model 0

Model 2: all psychosocial work exposures that displayed a significant positive contribution were added to Model 0

^a Contribution (%) of psychosocial work exposure(s) in the association between organisational change and depression

^b The decomposition of the overall contribution (83.5 %) of all psychosocial work exposures (Model 2) was the following: High psychological demands (14.5%), Low supervisor support (3.4%), Low colleague support (1.1%), Low esteem (14.8%), Low job promotion (10.6%), Low job security (7.3%), Bullying (10.7%), Verbal aggression (1.9%), Physical/sexual aggression (0.2%), Work-family conflict (8.8%), Ethical conflict (8.1%), Lean (2.2%), Long working hours (-0.1%)

PR: prevalence ratio