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Occupational class and working beyond the retirement age: a cohort study ¹

by Marianna Virtanen, PhD,1 Tuula Oksanen, MD, PhD, 1 Jaana Pentti, BSc, 2, 3 Jenni Ervasti, PhD, 1 Jenny Head, PhD, 4 Sari Stenholm, PhD, 2 Jussi Vahtera, MD, PhD, 2, 5 Mika Kivimäki, academic degree

1 *Supplementary tables A–F*

2 *Correspondence to: Prof. Marianna Virtanen, Finnish Institute of Occupational Health, P.O. Box 40, FI-00251 Helsinki, Finland. [E-mail: marianna.virtanen@ttl.fi]*

Supplementary Table A. Association of socio-demographic factors, work characteristics and health factors before retirement with occupational class, n (%)

Characteristics	All (n=5331)		Managers and professionals (n=1814)		Lower grade non-manual workers (n=1302)		Skilled manual workers (n=1514)		Elementary occupations (n=701)		P for difference
Gender:											
men	1446	27.1	549	30.3	304	23.4	477	31.5	116	16.6	<0.0001
women	3885	72.9	1265	69.7	998	76.7	1037	68.5	585	83.5	
Married/cohabiting:											
Yes	3879	74.0	1366	76.4	935	73.1	1101	74.0	477	69.3	0.004
No	1364	26.0	423	23.6	344	26.9	386	26.0	211	30.7	
Part-time retirement:											
No	4157	78.0	1391	76.7	968	74.4	1267	83.7	531	75.8	<0.0001
Yes	1174	22.0	423	23.3	334	25.7	247	16.3	170	24.3	
Any shift work:											
No	3975	75.8	1599	89.6	1026	80.0	892	60.1	458	66.0	<0.0001
Yes	1270	24.2	185	10.4	257	20.0	592	39.9	236	34.0	
Night work:											
No	4864	92.7	1768	99.1	1200	93.5	1223	82.4	673	97.0	<0.0001
Yes	381	7.3	16	0.9	83	6.5	261	17.6	21	3.0	
Physical workload:											
No	3064	58.5	1497	83.7	1009	79.0	452	30.4	106	15.4	<0.0001
Yes	2176	41.5	291	16.3	268	21.0	1035	69.6	582	84.6	
Job strain:											
No	3523	67.4	1368	76.2	889	69.5	947	63.9	319	47.2	<0.0001
Yes	1708	32.7	427	23.8	390	30.5	534	36.1	357	52.8	
Poor work time control:											
No	3453	65.9	1223	68.4	1063	82.8	827	55.6	340	49.9	<0.0001
Yes	1788	34.1	565	31.6	221	17.2	661	44.4	341	50.1	
Chronic somatic disease:											
No	1611	30.2	646	35.6	382	29.3	399	26.4	184	26.3	<0.0001

Yes	3720	69.8	1168	64.4	920	70.7	1115	73.7	517	73.8	
History of mental disorder treatment:											
No	4247	79.7	1428	78.7	1011	77.7	1235	81.6	573	81.7	0.023
Yes	1084	20.3	386	21.3	291	22.4	279	18.4	128	18.3	
Psychological distress:											
No	4043	76.6	1375	76.3	990	76.7	1158	77.2	520	75.6	0.85
Yes	1237	23.4	427	23.7	300	23.3	342	22.8	168	24.4	
Work ability:											
Good	3093	59.2	1222	68.2	779	61.2	777	52.3	315	46.5	<0.0001
Reduced	2135	40.8	571	31.9	493	38.8	708	47.7	363	53.5	
Smoking:											
No	4519	87.2	1607	90.3	1096	86.4	1250	85.9	566	83.2	<0.0001
Yes	664	12.8	172	9.7	172	13.6	206	14.2	114	16.8	
High alcohol use:											
No	4794	91.0	1571	87.3	1160	90.4	1414	94.5	649	94.3	<0.0001
Yes	473	9.0	229	12.7	123	9.6	82	5.5	39	5.7	
Obesity:											
No	4214	81.3	1499	84.5	1016	80.9	1177	80.0	522	76.8	<0.0001
Yes	968	18.7	275	15.5	240	19.1	295	20.0	158	23.2	
Low physical activity:											
No	3515	66.8	1253	69.6	868	67.6	989	66.4	405	58.8	<0.0001
Yes	1748	33.2	547	30.4	416	32.4	501	33.6	284	41.2	
Pensionable age:											
57-61	837	15.7	141	7.8	207	15.9	452	29.9	37	5.3	<0.0001
62-63	1232	23.1	392	21.6	360	27.7	345	22.8	135	19.3	
64-65	3262	61.2	1281	70.6	735	56.5	717	47.4	529	75.5	
Extended employment:											
No	4410	82.7	1436	79.2	1003	77.0	1343	88.7	628	89.6	<0.0001
Yes	921	17.3	378	20.8	299	23.0	171	11.3	73	10.4	

Supplementary Table B. Predictors of extended employment

Characteristics	% with extended employment	RR (95 % CI) ^a
Gender: men vs women	19.5 / 16.5	1.19 (1.04-1.35)
Married/ cohabited: no vs yes	24.0 / 15.0	1.66 (1.47-1.88)
Part-time retirement: no vs yes	18.5 / 13.0	1.42 (1.21-1.67)
Any shift work: no vs yes	18.6 / 13.6	1.36 (1.17-1.58)
Night work: no vs yes	17.8 / 12.9	1.42 (1.08-1.85)
Physical workload: no vs yes	21.1 / 12.0	1.75 (1.53-2.00)
Job strain: low/average vs high	18.5 / 15.0	1.22 (1.07-1.39)
Work time control: high vs low/average	20.1 / 12.2	1.64 (1.42-1.89)
Chronic somatic disease: no vs yes	20.4 / 15.9	1.28 (1.14-1.45)
History of mental disorder treatment: no vs yes	17.8 / 15.2	1.15 (0.99-1.35)
Psychological distress: no vs yes	18.9 / 12.3	1.53 (1.30-1.80)
Work ability: good vs poor	21.9 / 10.9	2.04 (1.77-2.34)
Smoking: no vs yes	17.6 / 16.1	1.12 (0.93-1.35)
High alcohol use: no vs yes	17.1 / 19.5	0.89 (0.74-1.08)
Obesity: no vs yes	17.9 / 14.9	1.21 (1.02-1.42)
Low physical activity: no vs yes	16.9 / 17.5	1.04 (0.92-1.18)

^aAdjusted for gender.

Supplementary Table C. Summary of the findings on the association of potential explanatory factors with occupational class and outcome (extended employment)

Variable	Graded association with occupational class	Association with outcome	Status as explanatory factor
Marital status	Opposite	++	-
Part-time retirement (no)	(+)	+	(+)
Shift work	++	+	+
Night work	(+)	+	+
Physical workload	++	++	++
Job strain	++	+	+
Work time control	++	++	++
Chronic somatic disease	++	+	+
History of mental disorder treatment	Opposite	(+)	-
Psychological distress	-	++	(+)
Work ability	++	++	++
Smoking	++	-	(+)
Alcohol use	+	-	(+)
Obesity	+	+	+
Low physical activity	++	-	(+)

- Not fulfilling requirements to be an explanatory factor.
- (+) Low likelihood of being an explanatory factor.
- + Likelihood of being an explanatory factor.
- ++ Strong likelihood of being an explanatory factor.

Supplementary Table D. Adjusted traditional and counterfactual mediation analysis on the association between occupational class (exposure)^a and extended employment (outcome), with physical workload as a mediator

Method of analysis	RR (95% CI)	Proportion mediated (%)
Traditional analysis		
High vs low occupational class	1.86 (1.62-2.15) ^b	
High vs low occupational class	1.68 (1.43-1.98) ^c	20.9
Counterfactual analysis^b		
Interaction (exposure x mediator) <i>not allowed;</i>		
High vs low occupational class		
Controlled direct effect	1.68 (1.43-1.98)	
Natural direct effect	1.68 (1.43-1.98)	
Natural indirect effect	1.12 (1.03-1.22)	
Total effect	1.89 (1.64-2.18)	23.4
Interaction (exposure x mediator) <i>allowed;</i>		
High vs low occupational class		
Controlled direct effect	1.46 (1.15-1.86)	
Natural direct effect	1.59 (1.33-1.90)	
Natural indirect effect	1.19 (1.06-1.32)	
Total effect	1.89 (1.64-2.18)	33.2

^aHigh occupational class includes low-grade non-manual workers, managers and professionals. Low occupational class includes elementary occupations and skilled manual workers.

^bAdjusted for gender, shift work, somatic disease, and job strain.

^cAdditionally adjusted for physical workload.

Supplementary Table E. Adjusted traditional and counterfactual mediation analysis on the association between occupational class (exposure)^a and extended employment (outcome), with work time control as a mediator

Method of analysis	RR (95% CI)	Proportion mediated (%)
Traditional analysis		
High vs low occupational class	1.87 (1.63-2.16) ^b	10.3
High vs low occupational class	1.78 (1.54-2.05) ^c	
Counterfactual analysis ^b		
Interaction (exposure x mediator) <i>not allowed;</i>		
High vs low occupational class		12.0
Controlled direct effect	1.78 (1.54-2.05)	
Natural direct effect	1.78 (1.54-2.05)	
Natural indirect effect	1.06 (1.03-1.09)	
Total effect	1.88 (1.63-2.17)	
Interaction (exposure x mediator) <i>allowed;</i>		
High vs low occupational class		16.5
Controlled direct effect	1.31 (1.02-1.69)	
Natural direct effect	1.73 (1.49-2.00)	
Natural indirect effect	1.08 (1.05-1.12)	
Total effect	1.87 (1.62-2.16)	

^aHigh occupational class includes low-grade non-manual workers, managers and professionals. Low occupational class includes elementary occupations and skilled manual workers.

^bAdjusted for gender, shift work, somatic disease, and job strain.

^cAdditionally adjusted for work time control.

Supplementary Table F. Adjusted traditional and counterfactual mediation analysis on the association between occupational class (exposure)^a and extended employment (outcome), with work ability as a mediator

Method of analysis	RR (95% CI)	Proportion mediated (%)
Traditional analysis		
High vs low occupational class	1.88 (1.63-2.18) ^b	
High vs low occupational class	1.77 (1.53-2.04) ^c	12.5
Counterfactual analysis^b		
Interaction (exposure x mediator) <i>not allowed;</i>		
High vs low occupational class		
Controlled direct effect	1.77 (1.53-2.04)	
Natural direct effect	1.77 (1.53-2.04)	
Natural indirect effect	1.07 (1.05-1.09)	
Total effect	1.89 (1.64-2.18)	13.6
Interaction (exposure x mediator) <i>allowed;</i>		
High vs low occupational class		
Controlled direct effect	1.70 (1.31-2.19)	
Natural direct effect	1.77 (1.53-2.04)	
Natural indirect effect	1.07 (1.05-1.10)	
Total effect	1.89 (1.64-2.18)	14.0

^aHigh occupational class includes low-grade non-manual workers, managers and professionals. Low occupational class includes elementary occupations and skilled manual workers.

^bAdjusted for gender, shift work, somatic disease, and job strain.

^cAdditionally adjusted for work ability.