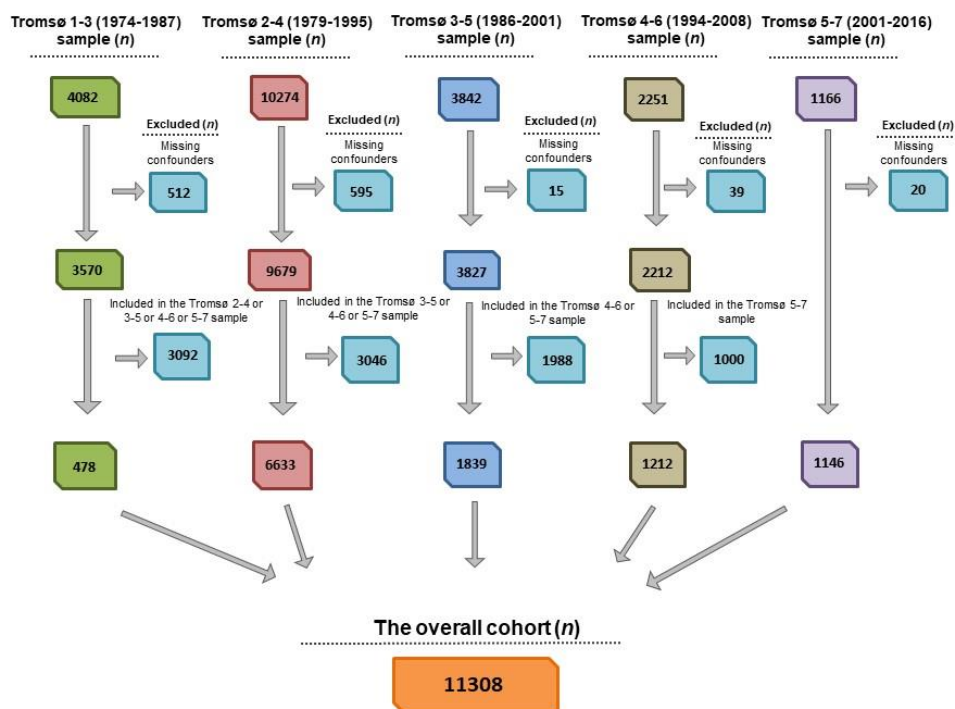


Supplementary materials



Supplementary Figure 1. Flow chart of selected participants.

Supplementary file 1: Differences in the SGPALS questionnaire between the original and the one used in the Tromsø Study surveys.

As new behavioural concepts have emerged[1] and perhaps some jobs are automated due to technological developments, some of the work examples in answer alternatives for occupational physical activity are omitted and new examples are added. Work examples in our study differ from the original Saltin-Grimby Physical Activity Scale (SGPALS) by Saltin and Grimby in 1968[2]. For leisure time physical activity, a frequency specification in answering alternative three is added. The detailed differences are presented below. Table 1

presents the original occupational time SGPALS, and Table 2 presents the occupational time SGPALS used in the Tromsø Study.

Table 1. The original Occupational time SGPALS by Saltin and Grimby (1968, *Circulation*).

Question: Occupational Activity:			
1	2	3	4
<i>Predominantly sedentary, sitting: desk worker, watch maker, sitting assembly line worker (light gods)</i>	<i>Sitting or standing, some walking: cashier, general office worker, light tool and machinery worker, foreman</i>	<i>Walking, some handling of material: mailman, waiter, construction worker, heavy tool and machinery worker</i>	<i>Heavy manual work: lumberjack, dock worker, stone mason, farm worker, ditch digger</i>

SGPALS=Saltin-Grimby Physical Activity Level Scale

Table 2. The Occupational time SGPALS in The Tromsø Study.

Occupational Physical Activity			
Question:			
<i>Tromsø 1-3: Type of work: During the last year, have you had:</i>			
<i>Tromsø 4-6: If you have paid or unpaid work, which statement describes your work best?</i>			
1	2	3	4
<i>Mostly sedentary work? (e.g. office work, watchmaker, light manual work)</i>	<i>Work that requires a lot of walking? (e.g. shop assistant, light industrial work, teaching)</i>	<i>Work that requires a lot of walking and lifting? (e.g. postman, heavy industrial work, construction)</i>	<i>Heavy manual labour? (e.g. forestry, heavy farmwork, heavy construction)</i>

SGPALS=Saltin-Grimby Physical Activity Level Scale

Tromsø 1, 2 and 3 included the same Occupational time SGPALS. Tromsø 4-6 asks the question differently, but the answer alternatives are similar. Both the questions and answer alternatives differ from the original SGPALS. Tromsø 5 replaced “*heavy industrial work*”

with “*nursing*” in their examples of work in answer alternative 3. When comparing the original with the occupational time SGPALS used in the Tromsø Study, questions differ.

- **Answer alternative 1)** have different wording but presents similar work examples.
- **Answer alternative 2)** the original states “*sitting, standing, some walking*” while the Tromsø Study states “*a lot of walking*”. In the Tromsø Study, “*cashier*” is rephrased to “*shop assistant*”, “*general office worker*” is removed, “*light tool and machinery worker*” is rephrased to “*light industrial work*” and “*foreman*” is replaced with “*teaching*”.
- **Answering alternative 3:** both the original and the Tromsø Study states walking and lifting but with different wording. Some work examples are similar, but “*waiter*” is removed in the Tromsø study and “*machinery worker*” is replaced with “*construction*”.
- **Answering alternative 4:** The original states “*heavy manual work*” and the Tromsø Study states “*heavy manual labour*”. In the Tromsø Study, “*lumberjack*” is replaced with “*forestry*”, “*stone mason*” is removed and “*ditch digger*” is replaced with “*construction*”.

Table 3 presents the original leisure time Saltin-Grimby Physical Activity Scale (SGPALS), and Table 4 presents the leisure time SGPALS used in the Tromsø Study.

Table 3. The original Leisure time SGPALS by Saltin and Grimby (1968, *Circulation*).

Leisure time Physical Activity			
Question:			
<i>The following section deals with your spare-time physical activity. The table outlines four different levels. Please read the table carefully and then check appropriate boxes below:</i>			
1	2	3	4
<i>Almost completely inactive: reading, TV watching, movies etc.</i>	<i>Some physical activity during at least 4 hours per week: riding a bicycle or walking to work, walking or skiing with the family, gardening</i>	<i>Regular activity, such as heavy gardening, running, calisthenics, tennis etc.</i>	<i>Regular hard physical training for competition in running events, soccer, racing, European handball etc. Several times per week</i>

SGPALS=Saltin-Grimby Physical Activity Level Scale

Table 4. The Leisure time SGPALS used in the Tromsø Study.

Leisure time Physical Activity			
Question:			
<i>Exercise and physical exertion in leisure time. If your activity varies much, for example between summer and winter, then give an average. The question refers only to the last twelve months.</i>			
1	2	3	4
<i>Reading, watching TV, or other sedentary activity?</i>	<i>Walking, cycling, or other forms of exercise at least 4 hours a week? Include walking or cycling to workplace, Sunday stroll/walk etc</i>	<i>Participation in recreational sports, heavy gardening, etc.? (note: duration of activity at least 4 hours a week).</i>	<i>Participation in hard training or sports competitions, regularly several times a week?</i>

When comparing the original with the leisure time SGPALS used in the Tromsø Study, questions differs, and “*spare-time*” is rephrased to “*leisure time*” in the Tromsø Study. The Tromsø Study asks for an average over the last 12 months, while the original has no time period specification.

- **Answer alternative 1:** In the Tromsø Study, “*almost inactive*” is replaced by “*sedentary activity*”. Examples are similar.

- **Answer alternative 2:** both the original and the Tromsø Study require 4 hours per week and provide walking and cycling to work as an example. In the Tromsø Study, “*skiing with the family*” is replaced by “*Sunday stroll/walk*” and “*gardening*” is removed.
- **Answer alternative 3:** The Tromsø study require 4 hours per week, while the original have no frequency specification. “*Heavy gardening*” is in both, while “*running, calisthenics, tennis etc.*” is rephrased to “*recreational sports*” in the Tromsø Study.
- **Answer alternative 4:** Both specify hard training and require several time per week, while Tromsø Study rephrased “*running events, soccer, racing, European handball etc.*” with “*sports competition*”.

REFERENCES

1. Grimby, G., Borjesson, M., Jonsdottir, I.H., et al., *The "Saltin-Grimby Physical Activity Level Scale" and its application to health research*. Scand J Med Sci Sports, 2015. **25 Suppl 4**: p. 119-25.
2. Saltin, B. and Grimby, G., *Physiological analysis of middle-aged and old former athletes. Comparison with still active athletes of the same ages*. Circulation, 1968. **38**(6): p. 1104-15.

Supplementary Table 1. Saltin-Grimby physical activity level scale (SGPALS).

	Occupational Physical Activity Level	Leisure Time Physical Activity Level
Question	<i>If you are in payed or unpaid work, how will you describe your work?</i>	<i>Estimate your physical activity level in your leisure time over the past year. If the physical activity varies throughout the year, give an average.</i>
Answer alternative 1	Light occupational physical activity: <i>“Predominantly sedentary work: desk worker, sitting assembly line worker (light goods)”</i> ,	Almost completely Inactive: <i>“reading, TV watching or other sedentary activity”</i>
Answer alternative 2	Moderate occupational physical activity: <i>“Sitting or standing, some walking, teaching, cashier, general office worker, light tool and machinery worker,”</i> ,	Moderately active: <i>“walking, cycling, or other forms of exercise at least 4 hours per week”</i>
Answer alternative 3	Heavy occupational physical activity: <i>“Walking, some handling of material: nurse, construction worker”</i> ,	Highly active: <i>“participation in recreational sports, heavy gardening, etc. at least 4 hours per week”</i>
Answer alternative 4	Very heavy occupational physical activity: <i>“Heavy manual work”</i> .	Vigorously active: <i>“participation in hard training or sports competitions regularly several times a week”</i> .

Supplementary Table 2. Weight at examination 2 and 3 and weight change in the overall cohort and period-specific samples.

Tromsø 1-7 (1974-2016)	N=11308	Examination 2	Examination 3	Change
Examination 2-3	Mean	72.71	75.15	2.44
Weight (kg)	95%CI	72.46 to 72.96	74.89 to 75.41	2.34 to 2.54
Period-specific samples*				
<i>Tromsø 1-3 (1974-87)#</i>	N=3570			
Tromsø 2-3 (1979-87)	Mean	76.86	78.41	1.54
Weight (kg)	95%CI	76.52 to 77.20	78.05 to 77.77	1.40 to 1.69
<i>Tromsø 2-4 (1979-95)</i>	N=9679			
Tromsø 3-4 (1986-95)	Mean	70.73	73.97	3.24
Weight (kg)	95%CI	70.48 to 70.98	73.70 to 74.24	3.14 to 3.34
<i>Tromsø 3-5 (1986-2001)</i>	N=3827			
Tromsø 4-5 (1994-2001)	Mean	73.71	76.41	2.71
Weight (kg)	95%CI	73.29 to 74.13	75.97 to 76.85	2.54 to 2.87
<i>Tromsø 4-6 (1994-2008)</i>	N=2212			
Tromsø-5-6 (2001-08)	Mean	76.71	77.05	0.34
Weight (kg)	95%CI	76.13 to 77.29	75.46 to 77.64	0.12 to 0.56
<i>Tromsø 5-7 (2001-2016)</i>	N=1146			
Tromsø 6-7 (2007-16)	Mean	78.18	78.75	0.57
Weight (kg)	95%CI	77.32 to 79.04	77.89 to 79.62	0.24 to 0.91

Data are shown as unadjusted mean and 95% CI. CI=confidence interval, Examination 2=second survey of the three attended surveys, Examination 3=third survey of the three attended surveys. *Period specific samples include all participants for that period (i.e. these samples do not add up to the total cohort: Tromsø 1-7), #Tromsø 1 included only men.

Supplementary Table 3. Weight change by occupational physical activity change for the overall cohort and in strata of birth year, smoking, education and leisure time physical activity change.

Tromsø 1-7 (1974-2016)	Change occupational physical activity examination 1 to 2					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Weight change examination 2 to 3						
<i>Total (N)</i>	11308	3692	5560	741	1315	
Weight (kg)	Mean	2.32	2.49	2.37	2.61	0.32
	95% CI	2.15 to 2.50	2.35 to 2.63	1.98 to 2.75	2.32 to 2.90	
Sex						
<i>Women (n)</i>	5482	1638	2925	319	600	
Weight (kg)	Mean	2.89	2.92	3.05	3.18	0.70
	95% CI	2.62 to 3.16	2.72 to 3.12	2.44 to 3.66	2.74 to 3.62	
<i>Men (n)</i>	5826	2054	2635	422	715	
Weight (kg)	Mean	1.76	2.11	1.79	2.08	0.17
	95% CI	1.54 to 2.01	1.91 to 2.32	1.29 to 2.28	1.70 to 2.46	
Birth year						
<i>≤1929 (n)</i>	748	239	350	60	99	
Weight (kg)	Mean	-0.28	0.51	0.68	-0.92	0.049
	95% CI	-0.97 to 0.42	-0.05 to 1.06	-0.60 to 1.96	-1.93 to 0.08	
<i>1930-1939 (n)</i>	2974	856	1580	189	349	
Weight (kg)	Mean	1.17	1.44	1.60	0.97	0.34
	95% CI	0.80 to 1.54	1.17 to 1.70	0.84 to 2.36	0.41 to 1.53	
<i>1940-1949 (n)</i>	4192	1483	2020	260	429	
Weight (kg)	Mean	2.47	2.61	2.12	3.09	0.09
	95% CI	2.19 to 2.75	2.37 to 2.85	1.46 to 2.77	2.58 to 3.60	
<i>1950-1959 (n)</i>	3947	932	1430	205	380	
Weight (kg)	Mean	3.91	3.72	3.75	4.40	0.15
	95% CI	3.58 to 4.25	3.45 to 3.99	3.04 to 4.45	3.88 to 4.91	
<i>≥1960 (n)</i>	447	182	180	27	58	

Weight (kg)	Mean	3.01	3.18	3.22	3.83	0.88
	95% CI	2.05 to 3.98	2.20 to 4.17	0.77 to 5.68	2.13 to 5.52	
Smoking						
<i>Current smoker (n)</i>		4480	1250	2343	306	581
Weight (kg)	Mean	2.75	2.88	2.41	2.93	0.51
	95% CI	2.43 to 3.07	2.65 to 3.11	1.79 to 3.03	2.47 to 3.38	
<i>Previous smoker (n)</i>		1790	703	782	126	179
Weight (kg)	Mean	0.97	1.18	1.54	1.28	0.69
	95% CI	0.56 to 1.38	0.79 to 1.57	0.58 to 2.49	0.47 to 2.08	
<i>Never smoker (n)</i>		5038	1739	2435	309	555
Weight (kg)	Mean	2.52	2.57	2.64	2.72	0.87
	95% CI	2.28 to 2.76	2.36 to 2.77	2.08 to 3.21	2.30 to 3.15	
Education						
<i>Primary school (n)</i>		4698	878	3010	265	545
Weight (kg)	Mean	2.14	2.31	1.97	2.25	0.70
	95% CI	1.78 to 2.51	2.12 to 2.51	1.30 to 2.64	1.79 to 2.72	
<i>High School (n)</i>		3610	1361	1566	271	412
Weight (kg)	Mean	2.49	2.71	2.40	3.20	0.10
	95% CI	2.21 to 2.77	2.45 to 2.97	1.77 to 3.02	2.68 to 3.70	
<i>University <4 years (n)</i>		1641	787	539	117	198
Weight (kg)	Mean	2.53	2.68	2.59	2.78	0.93
	95% CI	2.15 to 2.91	2.22 to 3.14	1.61 to 3.57	2.02 to 3.53	
<i>University >4 years (n)</i>		1359	666	445	88	160
Weight (kg)	Mean	2.12	2.40	3.46	2.13	0.11
	95% CI	1.74 to 2.51	1.92 to 2.88	2.43 to 4.49	1.37 to 2.90	
Leisure time physical activity change examination 1 to 2*						
<i>Persistently inactive (n)</i>		813	332	317	63	101
Weight (kg)	Mean	2.37	2.76	3.63	2.62	0.46
	95% CI	1.73 to 3.01	2.11 to 3.41	2.19 to 5.06	1.47 to 3.76	
<i>Persistently active (n)</i>		5368	1599	2798	328	643
Weight (kg)	Mean	2.90	2.94	2.39	3.26	0.10
	95% CI	2.64 to 3.16	2.74 to 3.13	1.84 to 2.95	2.86 to 3.66	
<i>Active to inactive (n)</i>		974	291	469	71	143
Weight (kg)	Mean	2.32	2.92	3.71	3.11	0.19
	95% CI	1.68 to 2.96	2.42 to 3.43	2.44 to 4.98	2.21 to 4.01	
<i>Inactive to active (n)</i>		999	348	451	66	134
Weight (kg)	Mean	2.56	3.09	2.59	2.33	0.45
	95% CI	1.94 to 3.18	2.55 to 3.63	1.21 to 3.97	1.36 to 3.30	

Data are adjusted for sex, birth year, smoking, education and weight at examination 2, and shown as adjusted mean and 95% CI. CI=confidence interval, Examination 1=first survey of the three attended surveys, Examination 2=second survey of the three attended surveys, Examination 3=third survey of the three attended surveys, P_{equality} =main differences between groups. *The leisure time Saltin-Grimby Physical Activity Scale was not included in Tromsø 4 (1994-95), the analysis stratified on leisure time physical activity change is smaller ($n=8154$) compared with the overall analysis ($N=11308$).

Supplementary Table 4. Body mass index and weight change by six-group occupational physical activity change for sensitivity analyses. Results are for the overall cohort as overall and in strata of sex, birth year, smoking, education and leisure time physical activity change.

Tromsø 1-7 (1974-2016)	Change occupational physical activity examination 1 to 2							P _{equality}
	Total	Persistently inactive	Persistently Active	Active but decreasing	Active and increasing	active to inactive	Inactive to active	
Outcome change examination 2 to 3								
Total (n)	11308	3692	3991	1315	741	896	673	
BMI (kg/m ²)	Mean	0.80	0.84	0.91	0.81	0.98	0.90	0.15
	95% CI	0.75 to 0.87	0.79 to 0.90	0.81 to 1.01	0.67 to 0.94	0.86 to 1.10	0.76 to 1.04	
Sex								
Women (n)	5482	1638	2110	600	319	362	453	
BMI (kg/m ²)	Mean	1.06	1.04	1.18	1.10	1.36	1.13	0.10
	95% CI	0.96 to 1.16	0.95 to 1.13	1.01 to 1.34	0.87 to 1.33	1.15 to 1.58	0.94 to 1.32	
Men (n)	5826	2054	1881	715	422	534	220	
BMI (kg/m ²)	Mean	0.56	0.68	0.66	0.55	0.67	0.68	0.30
	95% CI	0.49 to 0.63	0.60 to 0.75	0.54 to 0.78	0.39 to 0.71	0.52 to 0.81	0.47 to 0.90	
Birth year								
≤1929 (n)	748	239	237	99	60	85	28	
BMI (kg/m ²)	Mean	-0.09	0.05	-0.31	0.20	0.28	0.71	0.03
	95% CI	-0.32 to 0.13	-0.16 to 0.27	-0.64 to 0.01	-0.22 to 0.62	-0.08 to 0.63	0.09 to 1.32	
1930-1939 (n)	2974	856	1154	349	189	243	183	
BMI (kg/m ²)	Mean	0.43	0.53	0.36	0.55	0.60	0.41	0.54
	95% CI	0.30 to 0.57	0.42 to 0.64	0.16 to 0.56	0.28 to 0.82	0.36 to 0.84	0.14 to 0.69	
1940-1949 (n)	4192	1483	1475	429	260	291	254	
BMI (kg/m ²)	Mean	0.85	0.87	1.06	0.73	1.06	1.03	0.09
	95% CI	0.75 to 0.95	0.78 to 0.97	0.88 to 1.23	0.50 to 0.96	0.84 to 1.28	0.80 to 1.26	
1950-1959 (n)	2947	932	1005	380	205	243	182	
BMI (kg/m ²)	Mean	1.34	1.27	1.52	1.28	1.30	1.28	0.31
	95% CI	1.22 to 1.45	1.16 to 1.38	1.34 to 1.70	1.04 to 1.52	1.08 to 1.52	1.02 to 1.54	
≥1960 (n)	447	182	120	58	27	34	26	
BMI (kg/m ²)	Mean	1.04	0.92	1.13	1.84	1.84	1.00	0.45
	95% CI	0.70 to 1.39	0.72 to 1.94	0.24 to 2.02	1.04 to 2.63	1.04 to 2.63	0.09 to 1.92	
Smoking								
Smoker (n)	4480	1250	1645	581	306	393	305	
BMI (kg/m ²)	Mean	0.96	0.99	1.02	0.82	1.12	0.93	0.46
	95% CI	0.85 to 1.07	0.89 to 1.08	0.86 to 1.17	0.60 to 1.03	0.93 to 1.31	0.71 to 1.15	
Previous (n)	1790	703	572	179	126	126	84	
BMI (kg/m ²)	Mean	0.33	0.39	0.43	0.52	0.55	0.45	0.83
	95% CI	0.19 to 0.48	0.23 to 0.55	0.16 to 0.71	0.19 to 0.85	0.21 to 0.88	0.04 to 0.85	
Never smoker (n)	5038	1739	1774	555	309	377	284	
BMI (kg/m ²)	Mean	0.87	0.87	0.95	0.91	0.99	1.02	0.58
	95% CI	0.78 to 0.95	0.79 to 0.95	0.81 to 1.10	0.71 to 1.10	0.81 to 1.17	0.81 to 1.23	
Education								
Primary school (n)	4690	878	2110	545	265	532	368	
BMI (kg/m ²)	Mean	0.75	0.81	0.79	0.68	0.89	0.87	0.66
	95% CI	0.62 to 0.88	0.72 to 0.89	0.63 to 0.95	0.45 to 0.92	0.73 to 1.06	0.67 to 1.07	
High School (n)	3610	1361	1092	412	271	253	221	
BMI (kg/m ²)	Mean	0.87	0.90	1.11	0.82	1.19	0.92	0.04
	95% CI	0.77 to 0.97	0.79 to 1.01	0.93 to 1.29	0.60 to 1.03	0.97 to 1.42	0.68 to 1.16	
University <4 years (n)	1641	787	398	198	117	76	65	
BMI (kg/m ²)	Mean	0.85	0.96	0.97	0.88	0.76	0.75	0.84
	95% CI	0.72 to 0.98	0.78 to 1.14	0.71 to 1.22	0.55 to 1.21	0.34 to 1.17	0.31 to 1.20	
University ≥4 years (n)	1359	666	391	160	88	35	19	
BMI (kg/m ²)	Mean	0.72	0.73	0.75	1.16	1.17	1.48	0.049
	95% CI	0.59 to 0.85	0.56 to 0.90	0.49 to 1.01	0.81 to 1.50	0.62 to 1.72	0.73 to 2.23	
Leisure time physical activity change*								

<i>Persistently inactive</i>	813	332	233	101	63	45	39	
BMI (kg/m ²)	Mean	0.82	1.05	0.94	1.25	0.51	1.07	0.34
	95% CI	0.60 to 1.03	0.80 to 1.31	0.55 to 1.32	0.76 to 1.73	-0.07 to 1.10	0.44 to 1.69	
<i>Persistently active</i>	5368	1599	1998	643	328	462	338	
BMI (kg/m ²)	Mean	0.99	0.95	1.13	0.82	1.23	1.13	0.003
	95% CI	0.90 to 1.08	0.87 to 1.03	1.00 to 1.27	0.63 to 1.02	1.07 to 1.40	0.93 to 1.32	
<i>Active to inactive</i>	974	291	324	143	71	78	67	
BMI (kg/m ²)	Mean	0.82	1.02	1.11	1.25	1.26	0.77	0.25
	95% CI	0.60 to 1.04	0.82 to 1.23	0.80 to 1.43	0.80 to 1.69	0.84 to 1.69	0.31 to 1.24	
<i>Inactive to active</i>	999	348	318	134	66	85	48	
BMI (kg/m ²)	Mean	0.90	1.09	0.77	0.89	1.19	0.95	0.54
	95% CI	0.69 to 1.11	0.87 to 1.31	0.43 to 1.10	0.42 to 1.37	0.77 to 1.61	0.39 to 1.51	

Data are adjusted for sex, birth year, smoking, education and BMI or weight at examination 2, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main difference between groups. *The leisure time Saltin-Grimby Physical Activity Scale was not included in Tromsø 4 (1994-95).

Supplementary Table 5. BMI and weight change by occupational physical activity change for the Tromsø 5-7 sample in total and in strata of sex, birth year, smoking, education and leisure time physical activity change.

Tromsø 5-7 (2001-2016)	Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 6-7 (2007-08 to 2015-16)					
<i>Total (n)</i>	1146	481	501	60	104	
BMI (kg/m ²)	Mean	0.07	0.35	0.14	0.21	0.19
	95% CI	-0.11 to 0.25	0.17 to 0.53	-0.36 to 0.64	-0.17 to 0.60	
Weight (kg)	Mean	0.24	1.01	0.32	0.57	0.13
n=1147	95%CI	-0.36 to 0.65	0.51 to 1.51	-1.09 to 1.73	-0.50 to 1.65	
		n=482				
	Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)					
Sex	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
	Outcome change Tromsø 6-7 (2007-08 to 2015-16)					
<i>Women (n)</i>	611	253	278	30	50	
BMI (kg/m ²)	Mean	0.29	0.40	0.50	0.37	0.92
	95% CI	0.01 to 0.56	0.14 to 0.66	-0.29 to 1.29	-0.25 to 0.98	
Weight (kg)	Mean	0.77	1.06	1.40	1.05	0.91
n=612	95% CI	0.05 to 1.48	0.38 to 1.75	-0.57 to 3.48	-0.57 to 2.67	
		n=254				
<i>Men (n)</i>	535	228	223	30	54	
BMI (kg/m ²)	Mean	-0.21	0.34	-0.26	0.02	0.016
	95% CI	-0.44 to 0.02	0.10 to 0.58	-0.86 to 0.35	-0.44 to 0.47	
Weight (kg)	Mean	-0.64	1.08	-0.89	-0.02	0.013
	95% CI	-1.35 to 0.08	0.34 to 1.82	-2.78 to 1.01	-1.44 to 1.40	
	Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)					
Birth year	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
	Outcome change Tromsø 6-7 (2007-08 to 2015-16)					
<i>≤1949 (n)</i>	625	249	290	32	54	
BMI (kg/m ²)	Mean	-0.39	0.01	0.18	-0.09	0.07
	95% CI	-0.63 to -0.16	-0.21 to 0.23	-0.47 to 0.82	-0.59 to 0.41	
Weight change (kg)	Mean	-1.23	0.03	0.45	-0.22	0.041
n=626	95% CI	-1.90 to -0.56	-0.60 to 0.65	-1.39 to 2.30	-1.65 to 1.20	
		n=250				
<i>1950-1959 (n)</i>	266	125	111	15	15	
BMI (kg/m ²)	Mean	0.42	0.64	0.18	0.18	0.57
	95% CI	0.13 to 0.71	0.32 to 0.95	-0.65 to 1.02	-0.66 to 1.02	
Weight (kg)	Mean	1.12	1.83	0.31	0.37	0.50

	95% CI	0.36 to 2.06	0.91 to 2.75	-2.12 to 2.73	-2.06 to 2.79	
≥ 1960 (n)	255	107	100	13	35	
BMI (kg/m ²)	Mean	0.82	0.85	-0.01	0.98	0.67
	95% CI	0.33 to 1.31	0.34 to 1.36	-1.40 to 1.38	0.13 to 1.84	
Weight (kg)	Mean	2.30	2.45	-0.07	2.75	0.62
	95% CI	0.97 to 3.63	1.06 to 3.84	-3.82 to 3.68	0.43 to 5.06	
Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)						
Smoking	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 6-7 (2007-08 to 2015-16)						
<i>Smoker</i> (n)	196	64	100	11	21	
BMI (kg/m ²)	Mean	0.80	0.83	-0.12	1.07	0.67
	95% CI	0.11 to 1.48	0.29 to 1.38	-1.71 to 1.46	-0.10 to 2.23	
Weight (kg)	Mean	1.98	2.39	-0.17	2.78	0.70
(n=197)	95% CI	0.18 to 3.79	0.93 to 3.85	-4.40 to 4.07	-0.39 to 5.82	
		(n=65)				
<i>Previous</i> (n)	517	222	225	27	43	
BMI (kg/m ²)	Mean	-0.10	0.29	0.12	0.19	0.18
	95% CI	-0.34 to 0.14	0.04 to 0.53	-0.57 to 0.80	-0.36 to 0.74	
Weight (kg)	Mean	-0.31	0.77	0.22	0.59	0.20
	95% CI	-1.01 to 0.40	0.07 to 1.47	-1.77 to 2.22	-1.00 to 2.19	
<i>Never smoker</i> (n)	433	195	176	22	40	
BMI (kg/m ²)	Mean	-0.05	0.23	0.34	-0.19	0.37
	95% CI	-0.31 to 0.21	-0.05 to 0.50	-0.42 to 1.10	-0.76 to 0.38	
Weight (kg)	Mean	-0.16	0.72	0.85	-0.54	0.29
	95% CI	-0.88 to 0.56	-0.05 to 1.49	-1.26 to 2.97	-2.13 to 1.05	
Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)						
Education	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 6-7 (2007-08 to 2015-16)						
<i>Primary school</i> (n)	299	77	186	18	18	
BMI (kg/m ²)	Mean	0.04	0.54	0.14	0.20	0.33
	95% CI	-0.42 to 0.50	0.24 to 0.83	-0.83 to 1.11	-0.76 to 1.16	
Weight (kg)	Mean	0.12	1.55	0.38	0.94	0.32
	95% CI	-1.20 to 1.43	0.71 to 2.39	-2.35 to 3.12	-1.89 to 3.56	
<i>High School</i> (n)	419	161	206	20	32	
BMI (kg/m ²)	Mean	0.02	0.50	-0.004	0.13	0.16
	95% CI	-0.31 to 0.35	0.21 to 0.79	-0.92 to 0.91	-0.60 to 0.86	
Weight change (kg)	Mean	-0.06	1.38	0.03	0.12	0.10
(n=420)	95% CI	-0.95 to 0.83	0.60 to 2.16	-2.46 to 2.53	-1.87 to 2.11	
		(n=162)				
<i>University <4 years</i> (n)	209	128	46	12	23	
BMI (kg/m ²)	Mean	-0.07	-0.18	0.39	-0.10	0.83
	95% CI	-0.40 to 0.26	-0.75 to 0.38	-0.70 to 1.48	-0.89 to 0.68	
Weight (kg)	Mean	-0.14	-0.63	0.95	-0.30	0.86
	95% CI	-1.12 to 0.84	-2.29 to 1.03	-2.27 to 4.17	-2.62 to 2.01	
<i>University >4 years</i> (n)	219	115	63	10	31	
BMI (kg/m ²)	Mean	0.17	0.001	0.37	0.42	0.73
	95% CI	-0.16 to 0.49	-0.45 to 0.46	-0.71 to 1.45	-0.19 to 1.03	
Weight (kg)	Mean	0.40	0.08	0.83	1.27	0.75
	95% CI	-0.53 to 1.33	-2.25 to 3.91	-2.25 to 3.91	-0.49 to 3.02	
Change occupational physical activity Tromsø 5-6 (2001 to 2007-08)						
Leisure time physical activity change Tromsø 5-6 (2001-08)	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 6-7 (2007-08 to 2015-16)						
<i>Persistently inactive</i> (n)	85	48	28	3	6	
BMI (kg/m ²)	Mean	-0.32	0.63	0.35	-1.15	0.13
	95% CI	-0.88 to 0.24	-0.14 to 1.39	-1.84 to 2.53	-2.71 to 0.42	
Weight (kg)	Mean	-1.12	2.26	0.79	-2.45	0.14
	95% CI	-2.89 to 0.65	-0.16 to 4.68	-6.14 to 7.72	-7.40 to 2.49	

<i>Persistently active (n)</i>	771	295	361	42	73	
BMI (kg/m ²)	Mean	0.11	0.33	0.18	0.23	0.58
	95% CI	-0.12 to 0.33	0.12 to 0.54	-0.42 to 0.77	-0.23 to 0.68	
Weight (kg)	Mean	0.24	0.95	0.41	0.63	0.46
(n=772)	95% CI	-0.40 to 0.87	0.37 to 1.53	-1.24 to 2.07	-0.64 to 1.89	
		(n=296)				
<i>Active to inactive (n)</i>	117	62	36	7	12	
BMI (kg/m ²)	Mean	0.57	0.96	-0.45	-0.07	0.20
	95% CI	0.07 to 1.08	0.29 to 1.64	-1.95 to 1.05	-1.22 to 1.09	
Weight (kg)	Mean	1.59	2.70	-1.47	-0.24	0.19
	95% CI	0.16 to 3.03	0.79 to 4.61	-5.74 to 2.80	-3.52 to 3.05	
<i>Inactive to active (n)</i>	80	42	28	3	7	
BMI (kg/m ²)	Mean	-0.52	-0.17	0.004	1.01	0.32
	95% CI	-1.11 to 0.07	-0.89 to 0.56	-2.19 to 2.20	-0.48 to 2.49	
Weight (kg)	Mean	-1.71	-0.40	0.02	2.98	0.26
	95% CI	-3.44 to 0.02	-2.53 to 1.72	-6.37 to 6.41	-1.34 to 7.30	

Data are adjusted for sex, birth year, smoking, education and BMI or weight at Tromsø 6, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main differences between groups.

Supplementary Table 6. BMI and weight change by occupational physical activity change for the Tromsø 4-6 sample in total and in strata of sex, birth year, smoking and education.

Tromsø 4-6 (1994-2008)	Change occupational physical activity Tromsø 4-5 (1994-95 to 2001)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 5-6 (2001 to 2007-08)					
<i>Total (n)</i>	2212	884	985	166	177	
BMI (kg/m ²)	Mean	0.12	0.12	0.15	0.07	0.98
	95% CI	-0.004 to 0.24	0.01 to 0.24	-0.13 to 0.43	-0.20 to 0.35	
Weight (kg)	Mean	0.31	0.37	0.42	0.27	0.99
(n=2213)	95% CI	-0.04 to 0.66	0.04 to 0.71	-0.38 to 1.22	-0.50 to 1.04	
		(n=885)				
Sex	Change occupational physical activity Tromsø 4-5 (1994-95 to 2001)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 5-6 (2001 to 2007-08)					
<i>Women (n)</i>	1183	455	585	68	85	
BMI (kg/m ²)	Mean	0.31	0.07	0.18	0.04	0.27
	95% CI	0.12 to 0.50	-0.09 to 0.24	-0.31 to 0.66	-0.40 to 0.47	
Weight (kg)	Mean	0.86	0.22	0.43	0.18	0.29
	95% CI	0.35 to 1.38	-0.23 to 0.67	-0.88 to 1.74	-0.98 to 1.35	
<i>Men (n)</i>	1029	439	400	98	92	
BMI (kg/m ²)	Mean	-0.09	0.22	0.10	0.10	0.07
	95% CI	-0.25 to 0.06	0.06 to 0.39	-0.22 to 0.41	-0.22 to 0.43	
Weight (kg)	Mean	-0.28	0.65	0.34	0.30	0.09
(n=1030)	95% CI	-0.76 to 0.20	0.15 to 1.15	-0.63 to 1.31	-0.70 to 1.31	
		(n=440)				
Birth year	Change occupational physical activity Tromsø 4-5 (1994-95 to 2001)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 5-6 (2001 to 2007-08)					
<i>≤1939 (n)</i>	761	288	342	67	64	
BMI (kg/m ²)	Mean	-0.15	-0.13	-0.02	-0.42	0.56
	95% CI	-0.35 to 0.05	-0.31 to 0.05	-0.42 to 0.39	-0.83 to 0.00	
Weight (kg)	Mean	-0.46	-0.42	0.004	-1.16	0.57
	95% CI	-1.04 to 0.11	-0.94 to 0.10	-1.14 to 1.15	-2.34 to 0.02	
<i>1940-1949 (n)</i>	950	392	430	64	64	

BMI (kg/m ²)	Mean	0.06	0.07	-0.002	0.24	0.89
	95% CI	-0.13 to 0.25	-0.11 to 0.25	-0.46 to 0.46	-0.22 to 0.71	
Weight change (kg)	Mean	0.14	0.17	-0.05	0.84	0.77
	95% CI	-0.39 to 0.67	-0.34 to 0.68	-1.35 to 1.25	-0.47 to 2.14	
≥1950 (n)		501	204	213	35	49
BMI (kg/m ²)	Mean	0.66	0.62	0.57	0.51	0.97
	95% CI	0.39 to 0.94	0.35 to 0.90	-0.10 to 1.24	-0.05 to 1.08	
Weight (kg)	Mean	1.90	1.93	1.62	1.46	0.96
(n=502)	95% CI	1.10 to 2.69	1.13 to 2.72	-0.30 to 3.55	-0.16 to 3.08	
		(n=205)				
Change occupational physical activity Tromsø 4-5 (1994-95 to 2001)						
Smoking	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 5-6 (2001 to 2007-08)						
<i>Smoker (n)</i>	579	213	277	46	43	
BMI (kg/m ²)	Mean	0.47	0.61	0.52	0.34	0.82
	95% CI	0.18 to 0.75	0.36 to 0.86	-0.08 to 1.13	-0.28 to 0.97	
Weight (kg)	Mean	1.26	1.81	1.54	0.95	0.71
(n=580)	95% CI	0.44 to 2.07	1.10 to 2.53	-0.19 to 3.27	0.83 to 2.74	
		(n=214)				
<i>Previous (n)</i>	843	355	350	70	68	
BMI (kg/m ²)	Mean	-0.01	-0.10	-0.14	-0.53	0.20
	95% CI	-0.20 to 0.18	-0.29 to 0.10	-0.57 to 0.29	-0.96 to -0.10	
Weight (kg)	Mean	-0.03	-0.32	-0.40	-1.43	0.24
	95% CI	-0.58 to 0.51	0.87 to 0.24	-1.63 to 0.82	-2.67 to -0.20	
<i>Never smoker (n)</i>	790	316	358	50	66	
BMI (kg/m ²)	Mean	0.01	-0.01	0.16	0.52	0.11
	95% CI	-0.17 to 0.20	-0.19 to 0.16	-0.30 to 0.62	0.12 to 0.92	
Weight (kg)	Mean	-0.01	-0.001	0.40	1.58	0.07
	95% CI	-0.53 to 0.51	-0.49 to 0.49	-0.89 to 1.69	0.46 to 2.70	
Change occupational physical activity Tromsø 4-5 (1994-95 to 2001)						
Education	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 5-6 (2001 to 2007-08)						
<i>Primary school (n)</i>	782	205	461	50	66	
BMI (kg/m ²)	Mean	0.19	-0.02	0.03	0.01	0.62
	95% CI	-0.07 to 0.46	-0.20 to 0.15	-0.51 to 0.57	0.45 to 0.48	
Weight (kg)	Mean	0.50	-0.06	0.14	0.13	0.67
	95% CI	-0.23 to 1.24	-0.55 to 0.43	-1.36 to 1.64	-1.17 to 1.43	
<i>High School (n)</i>	665	279	285	53	48	
BMI (kg/m ²)	Mean	0.17	0.16	0.07	0.32	0.91
	95% CI	-0.03 to 0.38	-0.04 to 0.36	-0.39 to 0.54	-0.18 to 0.82	
Weight change (kg)	Mean	0.46	0.43	0.18	0.96	0.89
	95% CI	-0.13 to 1.05	-0.15 to 1.01	-1.16 to 1.53	-0.47 to 2.39	
<i>University <4 years (n)</i>	364	199	107	33	25	
BMI (kg/m ²)	Mean	0.19	0.40	0.09	0.08	0.70
	95% CI	-0.05 to 0.44	0.06 to 0.74	-0.52 to 0.69	-0.62 to 0.78	
Weight (kg)	Mean	0.53	1.28	0.22	0.28	0.56
	95% CI	-0.18 to 1.23	0.31 to 2.24	-1.52 to 1.96	-1.72 to 2.28	
<i>University >4 years (n)</i>	401	201	132	30	38	
BMI (kg/m ²)	Mean	-0.05	0.26	0.51	-0.16	0.26
	95% CI	-0.32 to 0.23	-0.8 to 0.60	-0.17 to 1.19	-0.77 to 0.45	
Weight (kg)	Mean	-0.11	0.75	1.57	-0.52	0.25
(n=402)	95% CI	-0.91 to 0.69	-0.26 to 1.75	-0.43 to 3.56	-2.31 to 1.27	
		(n=202)				

Data are adjusted for sex, birth year, smoking, education and BMI or weight at Tromsø 5, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main differences between groups.

Supplementary Table 7. BMI and weight change by occupational physical activity change for the Tromsø 3-5 sample in total and in strata of sex, birth year, smoking and education.

Tromsø 3-5 (1986-2001)	Change occupational physical activity Tromsø 3-4 (1986-87 to 1994-95)					P _{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Outcome change Tromsø 4-5 (1994-95 to 2001)						
Total (n)	3827	1315	1915	223	374	
BMI (kg/m ²)	Mean	0.96	0.96	1.02	0.91	0.90
	95% CI	0.86 to 1.05	0.87 to 1.04	0.79 to 1.25	0.73 to 1.09	
Weight (kg)	Mean	2.71	2.70	2.95	2.59	0.87
	95% CI	2.44 to 2.99	2.47 to 2.93	2.29 to 3.60	2.08 to 3.09	
Sex	Change occupational physical activity Tromsø 3-4 (1986-87 to 1994-95)					P _{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Outcome change Tromsø 4-5 (1994-95 to 2001)						
Women (n)	2021	637	1069	122	193	
BMI (kg/m ²)	Mean	1.22	1.13	1.21	1.07	0.70
	95% CI	1.07 to 1.37	1.01 to 1.25	0.86 to 1.55	0.79 to 1.34	
Weight (kg)	Mean	3.29	3.01	3.28	2.85	0.63
	95% CI	2.89 to 3.69	2.70 to 3.32	2.36 to 4.19	2.12 to 3.57	
Men (n)	1806	678	846	101	181	
BMI (kg/m ²)	Mean	0.66	0.77	0.81	0.74	0.59
	95% CI	0.54 to 0.78	0.66 to 0.88	0.51 to 1.11	0.51 to 0.97	
Weight (kg)	Mean	2.08	2.37	2.59	2.32	0.65
	95% CI	1.70 to 2.46	2.03 to 2.71	1.64 to 3.53	1.61 to 3.03	
Birth year	Change occupational physical activity Tromsø 3-4 (1986-87 to 1994-95)					P _{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Outcome change Tromsø 4-5 (1994-95 to 2001)						
≤1939 (n)	1829	624	951	100	154	
BMI (kg/m ²)	Mean	0.51	0.58	0.73	0.64	0.55
	95% CI	0.37 to 0.64	0.47 to 0.69	0.40 to 1.06	0.38 to 0.91	
Weight (kg)	Mean	1.40	1.63	2.13	1.81	0.47
	95% CI	1.01 to 1.79	1.31 to 1.94	1.18 to 3.08	1.05 to 2.57	
1940-1949 (n)	1216	445	585	73	113	
BMI (kg/m ²)	Mean	1.23	1.23	1.16	1.18	0.98
	95% CI	1.06 to 1.40	1.09 to 1.38	0.74 to 1.57	0.84 to 1.51	
Weight change (kg)	Mean	3.48	3.47	3.30	3.34	0.99
	95% CI	3.00 to 3.95	3.06 to 3.89	2.14 to 4.45	2.41 to 4.27	
≥1950 (n)	782	246	379	50	107	
BMI (kg/m ²)	Mean	1.56	1.40	1.55	1.24	0.48
	95% CI	1.32 to 1.79	1.21 to 1.59	1.03 to 2.07	0.89 to 1.59	
Weight (kg)	Mean	4.53	4.03	4.47	3.60	0.44
	95% CI	3.85 to 5.20	3.48 to 4.57	2.98 to 5.96	2.59 to 4.61	
Smoking	Change occupational physical activity Tromsø 3-4 (1986-87 to 1994-95)					P _{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Outcome change Tromsø 4-5 (1994-95 to 2001)						
Smoker (n)	1263	383	679	84	117	
BMI (kg/m ²)	Mean	0.99	0.95	0.70	1.20	0.34
	95% CI	0.79 to 1.19	0.80 to 1.10	0.28 to 1.12	0.85 to 1.56	
Weight (kg)	Mean	2.80	2.68	2.07	3.43	0.37
	95% CI	0.23 to 3.36	2.26 to 3.10	0.88 to 3.25	2.42 to 4.44	
Previous (n)	390	161	171	20	38	
BMI (kg/m ²)	Mean	0.96	1.21	1.51	0.75	0.33
	95% CI	0.66 to 1.26	0.92 to 1.51	0.67 to 2.34	0.14 to 1.37	
Weight (kg)	Mean	2.78	3.47	4.61	2.10	0.27
	95% CI	1.91 to 3.64	2.62 to 4.32	2.19 to 7.03	0.32 to 3.87	
Never smoker (n)	2174	771	1065	119	219	

BMI (kg/m ²)	Mean	0.94	0.91	1.16	0.79	0.23
	95% CI	0.83 to 1.06	0.82 to 1.01	0.87 to 1.45	0.57 to 1.00	
Weight (kg)	Mean	2.67	2.58	3.26	2.25	0.27
	95% CI	2.34 to 3.00	2.30 to 2.86	2.44 to 4.08	1.64 to 2.85	
Change occupational physical activity Tromsø 3-4 (1986-87 to 1994-95)						
Education	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 4-5 (1994-95 to 2001)						
<i>Primary school (n)</i>	1456	280	980	70	126	
BMI (kg/m ²)	Mean	0.91	0.92	0.59	1.07	0.38
	95% CI	0.69 to 1.13	0.80 to 1.04	0.15 to 1.03	0.75 to 1.40	
Weight (kg)	Mean	0.55	2.54	1.69	3.06	0.37
	95% CI	1.94 to 3.16	2.21 to 2.89	0.48 to 2.91	2.15 to 3.97	
<i>High School (n)</i>	1408	565	621	80	142	
BMI (kg/m ²)	Mean	1.00	1.04	1.45	0.90	0.14
	95% CI	0.85 to 1.14	0.91 to 1.18	1.06 to 1.84	0.61 to 1.19	
Weight change (kg)	Mean	2.82	2.98	4.17	2.53	0.11
	95% CI	2.40 to 3.24	2.69 to 3.38	3.07 to 5.26	1.71 to 3.36	
<i>University <4 years (n)</i>	551	279	169	37	66	
BMI (kg/m ²)	Mean	0.88	1.04	0.95	0.52	0.22
	95% CI	0.68 to 1.09	0.78 to 1.30	0.40 to 1.50	0.11 to 0.93	
Weight (kg)	Mean	2.60	2.95	2.86	1.56	0.29
	95% CI	2.00 to 3.19	2.18 to 3.72	1.23 to 4.48	0.35 to 2.77	
<i>University >4 years (n)</i>	412	191	145	36	40	
BMI (kg/m ²)	Mean	0.98	0.72	0.98	1.12	0.36
	95% CI	0.76 to 1.20	0.48 to 0.98	0.50 to 1.46	0.67 to 1.58	
Weight (kg)	Mean	2.87	2.12	2.76	3.18	0.41
	95% CI	2.22 to 3.51	1.39 to 2.86	1.36 to 4.17	1.85 to 4.51	

Data are adjusted for sex, birth year, smoking, education and BMI or weight at Tromsø 4, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main differences between groups.

Supplementary Table 8. BMI and weight change by occupational physical activity change for the Tromsø 2-4 sample in total and in strata of sex, birth year, smoking, education and leisure time physical activity change.

Tromsø 2-4 (1979-95)	Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
Outcome change Tromsø 3-4 (1986-87 to 1994-95)						
<i>Total (n)</i>	9679	2512	5179	665	1323	
BMI (kg/m ²)	Mean	1.12	1.15	1.12	1.07	0.50
	95% CI	1.05 to 1.19	1.10 to 1.20	0.99 to 1.26	0.98 to 1.17	
Weight (kg)	Mean	3.20	3.30	3.27	3.09	0.58
	95% CI	3.00 to 3.40	3.16 to 3.43	2.89 to 3.65	2.82 to 3.36	
Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)						
Sex	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 3-4 (1986-87 to 1994-95)						
<i>Women (n)</i>	4838	1062	2788	294	694	
BMI (kg/m ²)	Mean	1.45	1.43	1.37	1.36	0.77
	95% CI	1.33 to 1.57	1.35 to 1.49	1.15 to 1.59	1.21 to 1.50	
Weight (kg)	Mean	3.93	3.82	3.73	3.68	0.78
	95% CI	3.62 to 4.24	3.63 to 4.02	3.14 to 4.33	3.29 to 4.06	
<i>Men (n)</i>	4859	1458	2397	372	632	
BMI (kg/m ²)	Mean	0.80	0.88	0.89	0.78	0.30
	95% CI	0.72 to 0.88	0.82 to 0.95	0.73 to 1.04	0.66 to 0.90	
Weight (kg)	Mean	2.54	2.77	2.83	2.49	0.37
	95% CI	2.28 to 2.80	2.57 to 2.97	2.34 to 3.32	2.12 to 2.86	
Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)						

Birth year	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P _{equality}
	Outcome change Tromsø 3-4 (1986-87 to 1994-95)					
≤ 1929 (n)	549	174	258	45	72	
BMI (kg/m ²)	Mean	0.02	0.38	0.28	0.06	0.15
	95% CI	-0.23 to 0.28	0.18 to 0.57	-0.18 to 0.74	-0.30 to 0.42	
Weight (kg)	Mean	0.10	1.16	0.87	0.11	0.14
	95% CI	-0.67 to 0.87	0.56 to 1.76	-0.54 to 2.27	-1.00 to 1.22	
1930-1939 (n)	2666	675	1532	144	315	
BMI (kg/m ²)	Mean	0.81	0.88	0.83	0.72	0.51
	95% CI	0.68 to 0.95	0.79 to 0.97	0.55 to 1.12	0.52 to 0.91	
Weight (kg)	Mean	2.32	2.45	2.42	2.01	0.54
	95% CI	1.93 to 2.70	2.19 to 2.70	1.61 to 3.22	1.46 to 2.55	
1940-1949 (n)	3849	1071	2010	225	543	
BMI (kg/m ²)	Mean	1.30	1.26	1.20	1.18	0.56
	95% CI	1.19 to 1.41	1.19 to 1.34	0.97 to 1.43	1.03 to 1.32	
Weight change (kg)	Mean	3.72	3.60	3.48	3.39	0.64
	95% CI	3.41 to 4.02	3.38 to 3.82	2.82 to 4.13	2.97 to 3.81	
≥ 1950 (n)	2615	592	1379	251	393	
BMI (kg/m ²)	Mean	1.36	1.43	1.50	1.47	0.67
	95% CI	1.22 to 1.50	1.34 to 1.53	1.29 to 1.72	1.30 to 1.64	
Weight (kg)	Mean	3.97	4.16	4.39	4.30	0.66
	95% CI	3.56 to 4.39	3.89 to 4.43	3.75 to 5.02	3.80 to 4.80	
Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)						
Smoking	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P _{equality}
	Outcome change Tromsø 3-4 (1986-87 to 1994-95)					
Smoker (n)	4221	1015	2351	279	576	
BMI (kg/m ²)	Mean	1.15	1.16	1.12	1.01	0.32
	95% CI	1.03 to 1.26	1.09 to 1.24	0.91 to 1.34	0.86 to 1.16	
Weight (kg)	Mean	3.28	3.35	3.31	2.92	0.38
	95% CI	2.95 to 3.61	3.14 to 3.57	2.69 to 3.92	2.50 to 3.35	
Previous (n)	754	200	375	57	122	
BMI (kg/m ²)	Mean	0.88	0.90	1.21	0.99	0.60
	95% CI	0.62 to 1.13	0.70 to 1.08	0.74 to 1.69	0.67 to 1.31	
Weight (kg)	Mean	2.52	2.57	3.66	2.96	0.45
	95% CI	1.78 to 3.26	2.03 to 3.11	2.29 to 5.03	2.02 to 3.89	
Never smoker (n)	4704	1297	2453	329	625	
BMI (kg/m ²)	Mean	1.14	1.18	1.11	1.14	0.86
	95% CI	1.05 to 1.23	1.11 to 1.24	0.93 to 1.29	1.02 to 1.27	
Weight (kg)	Mean	3.28	3.34	3.16	3.26	0.91
	95% CI	3.01 to 3.54	3.16 to 3.53	2.65 to 3.67	2.89 to 3.63	
Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)						
Education	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P _{equality}
	Outcome change Tromsø 3-4 (1986-87 to 1994-95)					
Primary school (n)	4324	663	2929	221	511	
BMI (kg/m ²)	Mean	1.03	1.05	1.12	0.93	0.53
	95% CI	0.89 to 1.16	0.98 to 1.11	0.88 to 1.36	0.78 to 1.09	
Weight (kg)	Mean	2.93	2.93	3.23	2.62	0.47
	95% CI	2.54 to 3.32	2.74 to 3.11	2.55 to 3.90	2.17 to 3.06	
High School (n)	2936	904	1364	211	457	
BMI (kg/m ²)	Mean	1.16	1.23	1.22	1.14	0.68
	95% CI	1.05 to 1.28	1.14 to 1.33	0.98 to 1.45	0.98 to 1.29	
Weight change (kg)	Mean	3.33	3.56	3.53	3.27	0.63
	95% CI	3.01 to 3.66	3.29 to 3.82	2.86 to 4.21	2.82 to 3.73	
University <4 years (n)	1380	503	531	117	229	
BMI (kg/m ²)	Mean	1.31	1.23	1.29	1.15	0.67
	95% CI	1.16 to 1.47	1.09 to 1.38	0.98 to 1.60	0.93 to 1.37	
Weight (kg)	Mean	3.86	3.60	3.84	3.43	0.69

	95% CI	3.42 to 3.31	3.17 to 4.03	2.94 to 4.74	2.78 to 4.08	
<i>University >4 years (n)</i>		1039	442	355	116	126
BMI (kg/m ²)	Mean	1.06	1.29	1.02	1.38	0.04
	95% CI	0.92 to 1.20	1.14 to 1.45	0.75 to 1.28	1.12 to 1.63	
Weight (kg)	Mean	3.12	3.87	2.98	4.09	0.02
	95% CI	2.70 to 3.54	3.41 to 4.33	2.18 to 3.78	3.33 to 4.84	
Change occupational physical activity Tromsø 2-3 (1979-80 to 1986-87)						
Leisure time physical activity change Tromsø 2-3 (1979-87)	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
	Outcome change Tromsø 3-4 (1986-87 to 1994-95)					
<i>Persistently inactive (n)</i>	890	334	352	60	144	
BMI (kg/m ²)	Mean	1.12	1.04	1.52	1.03	0.35
	95% CI	0.91 to 1.33	0.84 to 1.25	1.03 to 2.01	0.71 to 1.35	
Weight (kg)	Mean	3.20	2.93	4.40	2.94	0.30
	95% CI	2.58 to 3.81	2.33 to 3.52	2.98 to 5.81	2.02 to 3.85	
<i>Persistently active (n)</i>	6484	1564	3645	439	836	
BMI (kg/m ²)	Mean	1.12	1.16	1.08	1.12	0.78
	95% CI	1.04 to 1.21	1.10 to 1.21	0.93 to 1.24	1.00 to 1.23	
Weight (kg)	Mean	3.25	3.32	3.13	3.23	0.84
	95% CI	3.01 to 3.50	3.16 to 3.48	2.68 to 3.58	2.90 to 3.55	
<i>Active to inactive (n)</i>	1059	271	567	96	125	
BMI (kg/m ²)	Mean	1.07	1.19	1.08	1.21	0.78
	95% CI	0.86 to 1.28	1.04 to 1.34	0.73 to 1.44	0.90 to 1.52	
Weight (kg)	Mean	3.03	3.37	3.20	3.47	0.79
	95% CI	2.42 to 3.63	2.95 to 3.79	2.19 to 4.21	2.59 to 4.35	
<i>Inactive to active (n)</i>	1232	341	695	69	217	
BMI (kg/m ²)	Mean	1.14	1.15	1.10	0.87	0.28
	95% CI	0.93 to 1.34	1.00 to 1.30	0.65 to 1.54	0.62 to 1.12	
Weight (kg)	Mean	3.20	3.28	3.26	2.49	0.30
	95% CI	2.63 to 3.78	2.85 to 3.72	2.00 to 4.52	1.79 to 3.20	

Data are adjusted for sex, birth year, smoking, education and BMI or weight at Tromsø 3, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main differences between groups.

Supplementary Table 9. BMI and weight change by occupational physical activity change for the Tromsø 1-3 sample in total and in strata of birth year, smoking, education and leisure time physical activity change.

Tromsø 1-3 (1974-87)	Change occupational physical activity Tromsø 1-2 (1974 to 1979-80)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 2-3 (1979-80 to 1986-87)					
<i>Total (n)</i>	3570	1033	1805	366	366	
BMI (kg/m ²)	Mean	0.48	0.48	0.49	0.57	0.68
	95% CI	0.39 to 0.57	0.41 to 0.54	0.35 to 0.64	0.43 to 0.71	
Weight (kg)	Mean	1.53	1.50	1.53	1.80	0.69
(n=3571)	95% CI	1.25 to 1.81	1.30 to 1.71	1.08 to 1.97	1.36 to 2.25	
		(n=1806)				
Birth year	Change occupational physical activity Tromsø 1-2 (1974 to 1979-80)					P_{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 2-3 (1979-80 to 1986-87)					
<i>≤1929 (n)</i>	565	174	280	60	51	
BMI (kg/m ²)	Mean	0.02	0.05	0.11	0.15	0.93
	95% CI	-0.21 to 0.25	-0.13 to 0.22	-0.25 to 0.46	-0.24 to 0.54	
Weight (kg)	Mean	0.08	0.13	0.40	0.34	0.95
	95% CI	-0.63 to 0.79	-0.41 to 0.67	-0.71 to 1.51	-0.85 to 1.54	

<i>1930-1939 (n)</i>	<i>1186</i>	<i>344</i>	<i>619</i>	<i>116</i>	<i>107</i>	
BMI (kg/m ²)	Mean	0.47	0.27	0.46	0.27	0.20
	95% CI	0.31 to 0.63	0.16 to 0.39	0.21 to 0.72	0.01 to 0.54	
Weight (kg)	Mean	1.49	0.87	1.46	0.82	0.18
(n=1187)	95% CI	1.00 to 1.98	0.51 to 1.22	0.66 to 2.26	-0.02 to 1.65	
			(n=620)			
<i>1940-1949 (n)</i>	<i>1391</i>	<i>418</i>	<i>682</i>	<i>140</i>	<i>151</i>	
BMI (kg/m ²)	Mean	0.53	0.69	0.52	0.86	0.03
	95% CI	0.40 to 0.66	0.59 to 0.80	0.30 to 0.73	0.65 to 1.07	
Weight change (kg)	Mean	1.69	2.19	1.55	2.75	0.02
	95% CI	1.27 to 2.11	1.87 to 2.52	0.85 to 2.25	2.07 to 3.42	
<i>≥1950 (n)</i>	<i>428</i>	<i>97</i>	<i>224</i>	<i>50</i>	<i>57</i>	
BMI (kg/m ²)	Mean	1.03	0.86	1.18	1.02	0.51
	95% CI	0.74 to 1.32	0.67 to 1.05	0.79 to 1.58	0.66 to 1.38	
Weight (kg)	Mean	3.22	2.71	2.71	3.15	0.53
	95% CI	2.31 to 4.14	2.11 to 3.31	2.48 to 4.95	2.02 to 4.28	
Change occupational physical activity Tromsø 1-2 (1974 to 1979-80)						
Smoking	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 2-3 (1979-80 to 1986-87)						
<i>Smoker (n)</i>	<i>1705</i>	<i>429</i>	<i>930</i>	<i>174</i>	<i>172</i>	
BMI (kg/m ²)	Mean	0.41	0.49	0.52	0.44	0.79
	95% CI	0.27 to 0.56	0.39 to 0.59	0.31 to 0.74	0.23 to 0.66	
Weight (kg)	Mean	1.29	1.54	1.61	1.39	0.80
	95% CI	0.84 to 1.74	1.24 to 1.84	0.93 to 2.28	0.71 to 2.07	
<i>Previous (n)</i>	<i>503</i>	<i>141</i>	<i>242</i>	<i>52</i>	<i>68</i>	
BMI (kg/m ²)	Mean	0.49	0.40	0.18	0.47	0.55
	95% CI	0.25 to 0.72	0.23 to 0.58	-0.19 to 0.55	0.15 to 0.79	
Weight (kg)	Mean	1.55	1.26	0.47	1.50	0.46
	95% CI	0.81 to 2.28	0.70 to 1.81	-0.70 to 1.64	0.48 to 2.52	
<i>Never smoker (n)</i>	<i>1362</i>	<i>463</i>	<i>633</i>	<i>140</i>	<i>126</i>	
BMI (kg/m ²)	Mean	0.56	0.48	0.58	0.81	0.08
	95% CI	0.44 to 0.69	0.37 to 0.58	0.37 to 0.79	0.58 to 1.03	
Weight (kg)	Mean	1.80	1.51	1.83	2.54	0.08
(n=1363)	95% CI	1.41 to 2.19	1.18 to 1.84	1.15 to 2.50	1.83 to 3.25	
			(n=634)			
Change occupational physical activity Tromsø 1-2 (1974 to 1979-80)						
Education	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	P_{equality}
Outcome change Tromsø 2-3 (1979-80 to 1986-87)						
<i>Primary school (n)</i>	<i>1842</i>	<i>296</i>	<i>1198</i>	<i>162</i>	<i>186</i>	
BMI (kg/m ²)	Mean	0.21	0.31	0.40	0.45	0.26
	95% CI	0.05 to 0.37	0.23 to 0.39	0.19 to 0.61	0.25 to 0.65	
Weight (kg)	Mean	0.64	0.97	1.22	1.39	0.26
	95% CI	0.15 to 1.13	0.72 to 1.21	0.55 to 1.88	0.77 to 2.01	
<i>High School (n)</i>	<i>1002</i>	<i>332</i>	<i>446</i>	<i>117</i>	<i>107</i>	
BMI (kg/m ²)	Mean	0.74	0.58	0.55	0.76	0.28
	95% CI	0.59 to 0.89	0.45 to 0.71	0.30 to 0.81	0.50 to 1.03	
Weight change (kg)	Mean	2.36	1.81	1.72	2.38	0.24
	95% CI	1.88 to 2.84	1.39 to 2.22	0.92 to 2.51	1.55 to 3.22	
<i>University <4 years (n)</i>	<i>423</i>	<i>210</i>	<i>107</i>	<i>55</i>	<i>51</i>	
BMI (kg/m ²)	Mean	0.75	0.81	0.55	0.39	0.23
	95% CI	0.56 to 0.93	0.56 to 1.07	0.19 to 0.91	0.01 to 0.76	
Weight (kg)	Mean	2.41	2.60	1.76	1.28	0.25
	95% CI	1.81 to 3.00	1.77 to 3.42	0.60 to 2.91	0.09 to 2.48	
<i>University >4 years (n)</i>	<i>303</i>	<i>195</i>	<i>54</i>	<i>32</i>	<i>22</i>	
BMI (kg/m ²)	Mean	0.65	0.79	0.93	1.10	0.33
	95% CI	0.47 to 0.83	0.45 to 1.13	0.48 to 1.38	0.57 to 1.64	
Weight (kg)	Mean	2.08	2.65	2.91	3.54	0.33
(n=304)	95% CI	1.50 to 2.66		1.47 to 4.35	1.81 to 5.26	

1.56 to 3.73
(n=55)

Leisure time physical activity change Tromsø 1-2 (1974-80)	Change occupational physical activity Tromsø 1-2 (1974 to 1979-80)					P _{equality}
	Total	Persistently inactive	Persistently Active	Active to inactive	Inactive to active	
	Outcome change Tromsø 2-3 (1979-80 to 1986-87)					
<i>Persistently inactive (n)</i>	343	137	127	38	41	
BMI (kg/m ²)	Mean	0.42	0.36	0.32	0.60	0.83
	95% CI	0.16 to 0.68	0.10 to 0.63	-0.14 to 0.78	0.12 to 1.07	
Weight (kg)	Mean	1.33	1.16	0.99	1.93	0.80
	95% CI	0.52 to 2.14	0.32 to 2.00	-0.45 to 2.43	0.43 to 3.43	
<i>Persistently active (n)</i>	2323	635	1245	218	225	
BMI (kg/m ²)	Mean	0.49	0.47	0.55	0.53	0.83
	95% CI	0.38 to 0.59	0.40 to 0.55	0.38 to 0.72	0.36 to 0.70	
Weight (kg)	Mean	1.54	1.50	1.70	1.65	0.88
(n=2324)	95% CI	1.21 to 1.88	1.26 to 1.73	1.17 to 2.24	1.11 to 2.20	
			(n=1246)			
<i>Active to inactive (n)</i>	572	163	278	56	75	
BMI (kg/m ²)	Mean	0.43	0.55	0.39	0.68	0.62
	95% CI	0.18 to 0.67	0.37 to 0.73	0.04 to 0.73	0.28 to 1.08	
Weight (kg)	Mean	1.35	1.75	1.14	2.11	0.59
	95% CI	0.58 to 2.13	1.17 to 2.33	0.06 to 2.22	0.85 to 3.36	
<i>Inactive to active (n)</i>	326	97	151	53	25	
BMI (kg/m ²)	Mean	0.63	0.48	0.58	0.61	0.92
	95% CI	0.30 to 0.97	0.22 to 0.75	-0.04 to 1.19	0.19 to 1.03	
Weight (kg)	Mean	2.02	1.43	2.01	1.93	0.82
	95% CI	0.98 to 3.07	0.61 to 2.24	0.10 to 3.92	0.62 to 3.25	

Data are adjusted for birth year, smoking, education and BMI or weight at Tromsø 2, and shown as adjusted mean and 95% CI. CI=confidence interval, BMI=body mass index, P_{equality}=main differences between groups. Tromsø 1 included only men.