Table S1 Physical activity intervention study characteristics

			Age		*n* analysed			Intervention details		
First author	Year	Country	Mean (SD) or range	Population	*I*		C	Focus and length	Intervention description	QA score
Controlled trials										
Bjerke (18)	2013	United States	18–24	Undergraduate students	16	16	28	PA only 1 semester	Effect of three different kinds of undergraduate courses: APE/CPE students had lectures and labs as well as activities such as trail running/hiking, tennis and volleyball; APE students were in an activities only course such as strength and conditioning and Zumba; CPE students were in Exercise Physiology and consisted of lectures and laboratory activities.	13
De Cocker (35)	2008	Belgium	25–75	Community members	440		426	PA only 12 months	Community-wide media campaign using 10,000 steps/d promotion.	11
Taveras (36)	2011	United States	32.9 (4.6)	Mothers with infants	58		22	PA + diet 6 months	Brief discussion by paediatric primary care providers during five routine well child care visits, four individualized coaching and motivational counselling telephone calls with a study health educator, invitation to four group parenting skills training workshops and educational materials.	18
Randomized controlled trials										
Abascal (37)	2008	United States	41.2 (8.7)	Overweight/obese women	140		146	PA + diet 12 months	Women in balance: focused on diet quality and included initial web-based assessment, follow-up via the web, periodic phone and email interaction with a health counsellor. Target behaviours included increasing PA (30–60 min goal), fruit and vegetable intake, fibre, decreasing fat. Monthly online modules including goal setting. PACEi Men in Motion: short sessions, use of a pedometer. Monthly web-based activities including learning about and applying new behavioural skills, and reading diet and PA topics. Weekly goals set by the men for: fruit and vegetable intake, dietary fat, fibre, PA, strength training. Given pedometers and encouraged to input data on website. PA goals including steps/d to ≥10,000 and participating in strength training 2× week.	14
			43.9 (8.0)	Overweight/obese men	153		155			
Adams (38)	2012	United States	33.0 (8.0)*	Families from Indian tribes	67		83	Lifestyle 24 months	Healthy Children, Strong Families intervention. Mentored, home-based health lifestyles intervention targeting both American Indian primary caregivers and their 2–5-year-old children to reduce BMI.	14
Aittasalo (39)	2004	Finland	44.0 (9.0)	Employees	52	51	52	PA only 12 months	Nurse lead counselling focused on individual goals for leisure time PA. Leaflet provided and a weekly PA plan made with a PA diary. Participants in second group performed fitness tests including one-leg standing, side-bending of the trunk, modified push-up, one-leg squat and 2-km walk test.	19
Aittasalo (40)	2010	Finland	44.1 (9.4)*	Office workers	123		118	PA only 6 months	Pedometer-based intervention: 1-h preliminary meeting at worksite including health benefits and recommendations of PA and walking. Use of stairs emphasized. Employees supplied with walking leaflets, pedometers and logbooks. Self-monitoring of PA with the pedometer and logbook and monthly email messages from Occupational Health Care units.	19
Andersen (29,30)	2012, 2013	Norway	25–60	Sedentary Pakistani immigrant men	89		61	PA only 5 months	Physical Activity and Minority Health study: structured group exercise, group lectures, individual counselling and phone calls.	19

Table S1 *Continued*

First author	Year	Country	Age		*n* analysed				Intervention details		QA score
			Mean (SD) or range	Population	*I*			C	Focus and length	Intervention description	
Andrews (34)	2011	UK	30–80	Type 2 diabetes	246			99	PA + diet 12 months	Intensive diet intervention aimed at enabling patients to lose 5–10% of initial body weight. In the diet + PA group patients were asked to do at least 30-min brisk walking on at least 5 d/week. Each patient was given pedometer and log book and PA reviewed every 3 months.	22
Baker (41)	2010	Scotland	49.2 (8.8)	Low SES	39			40	PA only 60 weeks	Walking for Well-being in the West: received PA consultation and then followed a 12-week pedometer-based walking programme. First 6 weeks consisted of graduated bi-monthly goals with an aim for the increased walking behaviour to be maintained for the remaining 6 weeks. Overall goal to increase step count by 3,000 steps/d.	20
Bernaards (42)	2008	Netherlands	43.6 (8.7)*	Computer workers (neck and upper limb symptoms)	156			158	PA + work style 6 months	Work style and PA: interactive group meetings focused on behavioural change regarding body posture and workstation adjustment, use of sufficient breaks and work stress and increasing PA.	20
Bonnefoy (43)	2012	France	>78	Independent elderly	52			48	PA + diet 4 months	Patients prescribed exercises, received a booklet explaining how to perform exercises and how to fill in compliance diaries.	18
Breyer (44)	2010	Austria	60.3 (8.5)	COPD	30			30	PA only 3 months	Nordic walking; 1 h walking at 75% initial maximum heart rate, 3 times/week.	18
Burke (45)	2013	Australia	60–70	Seniors	176			199	PA + diet 6 months	Physical Activity and Nutrition for Seniors: low-cost, home-based intervention targeting insufficiently active low- to middle-income older adults and a semi-tailored programme to fit individual needs.	19
Carlson (46)	2012	Australia	18–56	Overweight/obese	163			189	PA + diet 12 months	Goal was to increase PA to 30–60 min/d 5–7 d/week, ≥10,000 steps per day.	9
Chin (47)	2006	Netherlands	81.0 (5.6)	Older adults in long-term care	40	41	45	31	PA only 6 months	Resistance training: performed 2× week in groups of five to seven participants directed by a trained physical therapist in order to improve muscle strength. Functional training: performed 2× week, led by a physiotherapist. Designed to improve muscle strength, speed, endurance, coordination and flexibility.	17
De Greef (48)	2010	Belgium	35–75	Type 2 diabetes	20			21	Lifestyle 12 weeks	Lifestyle intervention with five cognitive behavioural group sessions of 90 min. Provided with a pedometer and diary.	16
Fitzgibbon (49)	2005	United States	44.4 (7.9) 45.1 (6.9)	Obese Black women	13 18			14 19	PA + diet + breast health 20 weeks	Cohort #1 focused equal time on breast health and weight loss strategies Cohort #2 had greater focus on PA/weight loss.	16
Gilson (50)	2009	UK, Spain, Australia	41.3 (10.1)	White collar university employees	60		59	60	PA only 10 weeks	Two interventions: (i) increase step counts through brisk, sustained, route-based walking during work breaks; (ii) engage in incidental walking and accumulate step counts during working tasks (i.e. walking meetings).	16
Hallsworth (31)	2011	UK	56.7 (12.9)	Sedentary adults	10			7	PA only 8 weeks	Resistance exercise performed three times per week. Biweekly supervised sessions used to encourage adherence and progression.	16
Hansen (32)	2012	Denmark	50.0 (13.6)	Physically inactive	6,055			6,232	PA only 16 weeks	Web-based intervention founded in theories of stages of change and planned behaviour. Website had three major parts: (i) personal page with individually tailored PA advice and profile; (ii) page with training programmes and recommendations; and (iii) discussion page for questions.	17

Table S1 *Continued*

First author	Year	Country	Age		*n* analysed			Intervention details		QA score
			Mean (SD) or range	Population	*I*		C	Focus and length	Intervention description	
Hijazi (51)	2012	United States	29.6 (9.4)	Hospital employees	30		28	PA + diet 40 weeks	Use of smart phone application, MyFitnessPal for: nutritional facts; keeping track of calorie content of foods eaten; and allows participants to track their PA, water intake and any exercise and food notes.	18
Hu (52)	2012	China	20–49	Women with history of GDM	192		212	PA + diet 4 weeks	Individualized intervention with goal to increase PA from 15 to 30 min/d.	16
Kallings (53)	2009	Sweden	68	Insufficiently active and obese elderly	47		54	PA only 6 months	Patient-centred counselling and individual written PA prescription.	17
C. Keller *et al*., (unpublished)	2014	United States	28.3 (5.6)	Post-partum Latinas	39		53	PA only 12 weeks	Madres para la Salud: social support intervention with focus on moderate PA to effect changes in body fat, fat tissue inflammation and depression symptoms in sedentary postpartum Latinas. Conducted in group format and led by trained personnel. Group walking and intervention sessions.	20
Kim (54)	2006	United States	49.9 (7.8)	Women newly diagnosed with breast cancer	22		19	PA only 8 weeks	Moderate intensity aerobic exercise intervention. Minimum 3 d/week, 30 min/d.	17
Kozey-Keadle (55)	2014	United States	43.6 (9.9)	At risk for CVD	16		8	PA only 12 weeks	Participants exercise 5 d/week for 12 weeks on a treadmill. Intensity prescribed as percentage of heart rate reserve; each session was 40 min.	18
Lakerveld (56)	2013	The Netherlands	30–50	Risk for type 2 diabetes	242		248	Lifestyle 6 months	Nurse lead individual counselling focusing on motivational interviewing and problem solving.	17
Lane (57)	2010	Ireland	N/A	Inactive Irish women	85		91	PA only 1 time	Participants provided with a tailored PA booklet.	17
McGowan (20)	2010	Canada	45.7 (8.7)	Relatives of colon cancer patients	46		28	PA only 9 months	Home-based intervention designed to follow a 12-week exercise intervention. Participants received emails targeting issues in the adoption and maintenance phase of exercise.	19
Morgan (19)	2013	Australia	47.5 (11)	Overweight/ obese men	52	54	54	PA + diet 3 months	Three arms: Resource programme (paper no dietary feedback), Online (internet-based and dietary feedback), wait-list control. SHED-IT: self-help, exercise and diet intervention lasting 3 months with no face-to-face contact focusing on weight loss.	20
Morrison (58)	2013	UK	44.8	Families	15		12	PA only 10 weeks	Dog-based PA promotion in families.	21
Mutrie (59)	2012	UK	71.6 (6.0)*	Older adults	20		21	PA only 12 weeks	Two 30-min PA consultations from trained practice nurse, a pedometer and a walking programme. Control continued as normal and received the programme at the end of the 12 weeks.	18
Opdenacker (60)	2008	Belgium	54.5 (12)*	Women	37		42	PA only 5 months	One intervention meeting, a self-help booklet and monthly reminders. Aim to give women information on why and how to incorporate more PA into their daily lives.	18
Papalazarou (61)	2010	Greece	21–45	Obese women vertical banded gastroplasty	15		15	PA + diet 3 years	Lifestyle intervention with self-monitoring, self-evaluation, goal setting, reinforcement, stimulus control and relapse prevention. Focused on food intake and PA.	17
Shaw (62)	2008	United States	≥65	Senior women	13		11	PA only 3 months	Walking for exercise programme using assistive devices as needed to reach a targeted goal of 30 min/d.	14

Table S1 *Continued*

First author	Year	Country	Age		*n* analysed		Intervention details		QA score
			Mean (SD) or range	Population	*I*	C	Focus and length	Intervention description	
Slootmaker (63)	2009	The Netherlands	31.8 (3.5)	Dutch officer workers	38	42	PA only 3 months	Personal activity monitor coupled with simple and concise web-based tailored PA advice.	20
Spittaels (64)	2007	Belgium	41.4 (5.6)	Healthy adults	103 78	104	PA only 6 months	Intervention website vs. intervention website + email reminders. The main section of the website included an interactive computer-tailored programme that generated individualized PA advice after completing an assessment questionnaire. Tailored advice lead participants to additional website sections (goal setting, weekly plan, strength and flexibility exercises, start-to-run programme, forum, links and contact information).	20
Sternfeld (65)	2009	United States	45.3 (10.2)*	Office employees	195	436	PA only 4 months	Worksite RCT: email delivered intervention designed to increase PA.	19
Thompson (66)	2008	United States	18–40	American Indian women	100	100	PA + diet 5 months	Five discussion group sessions (one meeting per month) focused on healthful eating, PA, goal setting and social support.	18
Wadsworth (69)	2010	United States	Unknown	College women	23	19	PA only 6 weeks	Intervention consisted of emails, a website, access to an e-counsellor and access to computer-mediated exercise materials. Six weekly emails directed participants to web pages that targeted goal setting, time management, self-monitoring, social support, reinforcements, relapse prevention, realistic expectations of exercise, expectancies of exercise, overcoming barriers to exercise, anticipation of exercise relapse, natural history of exercise and building of exercise self-efficacy.	15
Walters (67,68)	2012	Australia	68 (8)	COPD	43	71	Lifestyle 12 months	Health mentoring by trained nurses including 16 calls for 30 min over 12 months. Participants set medium-term to long-term goals in collaboration with their health mentors using a specified framework of health behaviour targets, namely: smoking, nutrition, alcohol, PA, psychosocial well-being and symptom management.	20
B.M. Winzer *et al.*, (unpublished)	2014	Australia	57.2 (7.5)	Men with Barrett's oesophagus	17	16	PA only 24 weeks	60 min of moderate-intensity aerobic and resistance training, 5 d/week or a control arm (45 min of stretching, 5 d/week) for 24 weeks.	17

*Intervention arm mean age (SD).

APE, activities-based education courses; BMI, body mass index; C, control; COPD, chronic obstructive pulmonary disease; CPE, conceptually based courses; CVD, cardiovascular disease; GDM, gestational diabetes mellitus; I, intervention; PA, physical activity; QA, quality assessment; RCT, randomized controlled trial; SB, sedentary behaviour; SD, standard deviation; SES, socio-economic status.

Table S2 Physical activity and sedentary behaviour study characteristics

			Age		*n* analysed		Intervention details		
First author	Year	Country	Mean (SD) or range	Population	I	C	Focus and length	Intervention description	QA score
Controlled trials									
Chang (70)	2013	South Korea	66.4 (4.1)	Koreans >60 years	27	21	PA + SB 8 weeks	Empowerment intervention consisting of education, exercise and empowerment group discussion.	18
Dewa (71)	2009	Canada	45.6 (9.5)	Healthcare employees	22	6	PA + SB 4 weeks	Workers were provided with pedometers to promote walking, mental health and reduction of SBs.	14
Randomized controlled trials									
Adams (27,28)	2013	United States	58.5 (12.5)	Women weight loss support	40	24	PA + SB 6 weeks	Group sessions and email used mastery feedback from goal-setting activities along with behavioural cues and modelling to reduce SB and increase steps.	17
Barwais (73)	2013	Australia	27.0 (4.0)	Sedentary	18	15	PA + SB 4 weeks	Online personal activity monitor (using triaxial accelerometer) designed to motivate a reduction in SB and increase in PA in the activities of daily living.	19
De Greef (74)	2011	Belgium	35–75	Type 2 diabetes	60	32	PA + SB 24 weeks	Face-to-face sessions where participants were provided with a pedometer and then continued telephone support.	16
Eakin (75)	2010	Australia	20–75	Type 2 diabetes	117	127	PA + SB + diet 18 months	Telephone-delivered, behavioural weight loss intervention focusing on PA, diet and behavioural therapy including the reduction of SBs.	21
French (76)	2011	United States	41	Households	43 HH	44 HH	PA + SB + diet 12 months	Family-based intervention to prevent excess weight gain among households. Targeted TV viewing, low PA, consumption of fast foods, prepared snacks and sugar-sweetened beverages. Six monthly face-to-face group sessions, monthly newsletters, 12 home-based activities. TV-limiting device installed.	20
Jago (77)	2013	UK	Unknown	Parents with 6–8-year-old children	25	23	PA + SB 8 weeks	Parenting programme at community centre (2 h/session). Included topics on active play, screen viewing, motivation, expectation setting for parents, self-esteem, communication, etc.	17
Kozey-Keadle (55)	2014	United States	43.6 (9.9)	At risk for CVD	16	8	PA + SB arm 12 weeks	Participants exercised 40 min, 5 d/week for 12 weeks on a treadmill. Intensity prescribed as percentage of heart rate reserve. Participants were provided with home, work and discretionary time strategies to increase non-exercise PA and decrease sedentary time. Step goals to increase incidental PA.	18
Kriska (33)	2012	N/A	N/A	Type 2 diabetes	N/A	N/A	Lifestyle N/A	The Diabetes Prevention Programme: Activity goal of the lifestyle intervention was to achieve 150 min/week of moderate-intensity activity.	4
Lioret (78)	2012	Australia	32.3 (4.3)	Mothers with newborns	178	179	PA + SB + diet 15 months	Focused on parenting skills and behaviours aimed to promote development of healthy eating, physical activity and reduced SB in infants. Dietician-delivered intervention six 2-h sessions.	18
van Berkel (79)	2014	The Netherlands	46.0 (9.4)*	Employees	129	128	PA + SB + diet 6 months	Mindful VIP intervention comprised of 8 weeks of in-company mindfulness training with homework exercises, followed by eight sessions of e-coaching. Behaviours targeted included: vigorous PA in leisure time, sedentary behaviour at work and fruit and vegetable intake.	19
Verweij (80)	2012	The Netherlands	47 (8)	Employees	237	233	PA + SB + diet 6 months	Occupational health guideline-based care including increasing PA, reducing SB, increase fruit and vegetable intake, reducing snacking.	20

*Mean age (SD) in intervention arm.

C, control; CVD, cardiovascular disease; HH, households; I, intervention; N/A, not available; PA, physical activity; QA, quality assessment; SB, sedentary behaviour; SD, standard deviation.

Table S3 Sedentary behaviour study characteristics

			Age		*n* analysed		Intervention details		
First author	Year	Country	Mean (SD) or range	Population	I	C	Focus and length	Intervention description	QA score
Controlled trials									
Alkhajah (81)	2012	Australia	20–65	Office workers	18	14	SB only 3 months	Pilot study using the installation of sit–stand workstations.	17
Healy (82)	2013	Australia	43.2 (10.3)	Office workers	18	18	SB only 4 weeks	Multi-component intervention with key messaging: Stand up, sit less, move more. Standing tip of the week, dual display sit–stand workstations, health coaches (2× 30-min face-to-face meetings, followed by three calls (once a week). Specific recommendations encouraged participants to stand up every 30 min, sit less by using workstations and equal amounts of sitting and standing time.	21
Pronk (83)	2012	United States	38.4 (11.4)*	Sedentary employees	24	10	SB only 4 weeks	Study to reduce occupational sitting time and improving worker health through the installation of sit–stand workstations.	14
Randomized controlled trials									
Carr (84)	2013	United States	44.7 (9.6)	University workers	23	17	SB only 12 weeks	Multi-component intervention: theory-based, Internet-delivered programme, portable pedal machine at work and pedometer. Control was a wait-listed.	19
Gordon (85)	2013	United States	45.5 (12.7)	Sedentary employees	13	11	SB only 10 weeks	Pilot study with primary target to reduce SB by 30 min/d. Intervention used social construct theory relating to decreasing SBs at work. Received emails containing psychosocial materials and other available resources.	19
Kozey-Keadle (55)	2014	United States	43.6 (9.9)	At risk for CVD	14	8	SB only arm 12 weeks	Sedentary reduction group were provided with home, work and discretionary time strategies to increase their non-exercise PA and decrease sedentary time. Step goals were used to increase incidental PA.	18
Neuhaus (21)	2014	Australia	42.6 (11.5)	Desk-based office workers	MC 13 WO 13	14	SB only 3 months	Key messages: 'Stand Up, Sit Less and Move More'. Break up long bouts of sitting ≥30 min. Participants encouraged to substitute sitting with standing or moving time, primarily by using the height adjustable workstation. A sitting-to-standing ratio of ~50:50 was suggested. Multi-component (MC) group received combined organizational, environmental and individual components. Workstation only (WO) group only received the workstations and no further reinforcement.	21
Otten (86)	2009	United States	22–61	Overweight/obese	20	16	SB only 3 weeks	TV controls whereas those in the intervention group had a limit of 50% of their baseline TV viewing permitted, once the limit was achieved the TV was locked off. Controls continued usual TV viewing habits.	21

*Intervention mean age (SD).

C, control; CVD, cardiovascular disease; I, intervention; PA, physical activity; QA, quality assessment; SB, sedentary behaviour; SD, standard deviation.

Table S4 Physical activity intervention study results

Reference		Intervention		Sedentary behaviour measure			Sedentary behaviour results	Intervention effect
First author	Year	Focus	Length	Measure	Domain	Units		
Controlled studies								
Bjerke* (18)	2013	PA only	1 semester	IPAQ	Sitting time	Mean min/d	No changes were observed in the activities-based intervention. Both the activities/conceptually based course and the course-based (control) groups had a non-significant increase in sitting time.	–
De Cocker (35)	2008	PA only	12 months	IPAQ	Sitting time	Mean min/d	Intervention group had a significant reduction across all domains of sedentary time. Control had a significant increase across all domains.	Total + Weekday + Weekend +
Taveras (36)	2011	PA + diet	6 months	Questionnaire	TV time	Mean h/d	No significant difference between intervention and control	–
Randomized controlled studies								
Abascal (37)	2008	PA + diet	12 months	SBI	Sedentary time	Mean h/d	No significant difference between intervention and control – both had no change in sedentary time.	–
Adams, A* (38)	2012	Lifestyle	24 months	Questionnaire	TV viewing	Mean min/d	No significant difference between intervention and control – both had a significant decrease.	–
Aittasalo (39)	2004	PA only	12 months	IPAQ	Sitting	Mean min/workday Mean min/non-workday	No significant difference between intervention and control during workdays or non-work days – the fitness testing group had a significant reduction in non-workday sitting compared with the counselling only group.	Workday – Non-work –
Aittasalo (40)	2012	PA only	6 months	IPAQ	Sitting	Mean min/workday and /non-workday	No significant difference between intervention and control during workdays or non-work days	Workday – Non-work –
Andersen (29,30)	2012, 2013	PA only	5 months	Accelerometer	Sedentary time	Mean min/d	Post intervention (5 months): non-significant reduction in both intervention and control groups. Long-term follow-up (11 months): intervention group had a significant reduction in sedentary time. Control group had a non-significant increase.	Short term – Long term +
Andrews* (34)	2011	PA + diet	12 months	Accelerometer	Sedentary time	Mean min/d	Intervention group had a significant reduction in sedentary time. Control had a non-significant increase.	+
Baker (41)	2008, 2010	PA only	60 weeks	IPAQ	Sitting time	Median min/d	Intervention group had a significant reduction in sitting time. Control had a non-significant decrease.	Total time + Weekend +
Bernaards (42)	2008	PA + work style	6 months	Questionnaire	Reported breaks	Percent reporting breaks	Intervention group had significant increase in reported breaks over the control group.	+
Bonnefoy (43)	2012	PA + diet	4 months	PASE	Sitting >4 h/d	Percentage	No significant difference between intervention and control – both had a decrease pre-post.	–
Breyer (44)	2010	PA only	3 months	Accelerometer	Sitting time	Mean min/d	Intervention group had a significant reduction in sedentary time. Control had a non-significant increase.	+
Burke* (45)	2013	PA + diet	6 months	IPAQ	Sitting time	Mean min/week	Intervention group had a significant reduction in sedentary time. Control had a non-significant increase.	+
Carlson (46)	2012	PA + diet	12 months	Accelerometer	Sedentary time	Median min/d	No significant difference between intervention and control – both had no change in sedentary time.	–
Chin (47)	2006	PA only	6 months	Accelerometer	Sitting time	Median h/d	No significant difference between intervention and control – all groups had no significant change in sitting time.	–

Table S4 *Continued*

Reference		Intervention		Sedentary behaviour measure			Sedentary behaviour results	Intervention effect
First author	Year	Focus	Length	Measure	Domain	Units		
De Greef (48)	2010	PA only	12 weeks	Accelerometer	Sedentary time	Mean min/d	Intervention group had a significant reduction in sedentary time. Control had no change.	+
Fitzgibbon (49)	2005	PA + diet + breast health	20 weeks	Questionnaire	TV viewing	Mean h/d	No significant difference between intervention and control – both had no change in TV viewing.	–
Gilson (50)	2009	PA only	10 weeks	Questionnaire	Sitting time at work	Mean min/workday	No significant difference between intervention and control – both had no change in sedentary time.	–
Hallsworth* (31)	2011	PA only	8 weeks	Accelerometer	Sedentary time	Mean min/d	No significant difference between intervention and control – both had a non-significant decline in sedentary time.	–
Hansen (32)	2012	PA only	16 weeks	IPAQ	Sitting time	Median min/d	No significant difference between intervention and control – both had no change in sitting time.	–
Hijazi (51)	2012	PA + diet	40 weeks	Sedentary Behaviour Survey	Sedentary time	Mean h/week	No significant difference between intervention and control – both had a significant decline in sedentary time.	–
Hu (52)	2012	PA + diet	4 weeks	Questionnaire	Sitting time	Mean h/d	Intervention group had a significant reduction in sitting time. Control had a non-significant increase.	+
Kallings (53)	2009	PA only	6 months	IPAQ	Sitting time	Median h/d	No significant difference between intervention and control – both had a significant decrease.	–
C. Keller *et al.*, (unpublished)	2014	PA only	12 weeks	Accelerometer	Sedentary time	Mean min/d	No significant difference between intervention and control – both had a non-significant decline in sedentary time.	–
Kim (54)	2006	PA only	8 weeks	7-d PA questionnaire	Sedentary activity	Mean h/week	No significant difference between intervention and control groups – intervention had a significant decline, control group had non-significant decline.	–
Kozey-Keadle (55)	2014	PA only arm	12 weeks	ActivPAL	Sedentary time	% of day	Intervention group had a significantly greater reduction in sedentary time. Control had a significant increase.	+
Lakerveld* (56)	2013	Lifestyle	6 months	Questionnaire	Sedentary time	Mean min/d	Post intervention (6 months): no significant difference between intervention and control – intervention had a non-significant increase in sedentary time, control group had non-significant decline Midterm follow-up (12 months): no significant difference between intervention and control – both had a non-significant decline in sedentary time. Long-term follow-up (24 months): no significant difference between intervention and control – control group had significant decline in sedentary time.	Short-term – Midterm – Long-term –
Lane (57)	2010	PA only	1 time	Questionnaire	Sitting time	Mean min/week	No significant difference between intervention and control – intervention had a non-significant increase in sedentary time; control group had a significant increase.	–
McGowan* (20)	2010	PA only	9 months	Accelerometer	Sedentary time	Mean min/week	No significant difference between intervention and control	–
Morgan (19)	2013	PA + diet	3 months	Sitting questionnaire	Sitting time	Mean min/d	No significant difference between intervention and control – intervention had a non-significant decrease in sedentary time, control group had a non-significant increase	–
Morrison (58)	2013	PA only	10 weeks	Accelerometer	Sedentary time	% of time	No significant difference between intervention and control – both groups had no change.	–
Mutrie (59)	2012	PA only	12 weeks	ActivPAL	Sedentary time	Mean min/d	Intervention group had a significant reduction in sedentary time. Control had a non-significant increase.	+

Table S4 *Continued*

Reference		Intervention		Sedentary behaviour measure			Sedentary behaviour results	Intervention effect
First author	Year	Focus	Length	Measure	Domain	Units		
Opdenacker (60)	2008	PA only	5 months	IPAQ	Sitting time	Mean min/week	No significant difference between intervention and control – intervention had a non-significant decrease and control group had a non-significant increase in sitting time.	–
Papalazarou* (61)	2010	PA + diet	3 years	N/A	TV time	Mean h/d	Early intervention (3 months): intervention had a significant decrease in TV time, control group had non-significant decrease. Midterm follow-up (12 months): intervention had a significant decrease in TV time, control group had non-significant decrease. Long-term follow-up (36 months): intervention had a significant decrease in TV time, control group had non-significant decrease.	Short-term + Midterm + Long-term +
Shaw (62)	2008	PA only	3 months	YPAS	Sitting index	Mean h/d	No significant difference between intervention and control	–
Slootmaker (63)	2009	PA only	3 months	AQuAA	Sedentary time	Median min/week	No significant difference between intervention and control	–
Spittaels (64)	2007b	PA only	6 months	IPAQ	Sitting time	Mean min/d	Weekday sitting: both intervention groups had a significant decrease in weekday sitting time, control group had non-significant increase. Weekend sitting: no difference was between intervention and control – all groups had a decrease in weekend sitting time.	Weekday sitting + Weekend sitting –
Sternfeld* (65)	2009	PA only	4 months	Questionnaire	Sedentary time	Mean min/week	Immediate post-intervention: intervention group had a significantly greater reduction in sedentary time. 4-month post-intervention: intervention group had a greater reduction in sedentary time that approached significance ($P = 0.06$).	Immediate + 4-month –
Thompson* (66)	2008	PA + diet	5 months	Modifiable Activity Questionnaire	TV time	Mean h/d	Short-term follow-up (6 months): no significant difference between intervention and control – both had a significant decrease in TV time Midterm follow-up (12 months): no significant difference between intervention and control – both had a significant decrease in TV time. Long-term follow-up (18 months): no significant difference between intervention and control – both had a significant decrease in TV time.	Short-term – Midterm – Long-term –
Wadsworth* (69)	2010	PA only	6 weeks	IPAQ	Sitting time	Mean min/week	Immediate post-intervention: no significant difference between intervention and control – intervention had a significant decrease and control had a non-significant increase. Six-month post-intervention: intervention group had a non-significant reduction in sitting time and control had a significant increase in sitting time. The difference between groups approached significance ($P = 0.06$).	Immediate – 6-month –
Walters* (67,68)	2012	Lifestyle	12 months	Accelerometer	Sedentary time	Mean min/d	No significant difference between intervention and control – both groups had non-significant declines.	–
B.M. Winzer *et al.*, (unpublished)*	2014	PA only	24 weeks	IPAQ	Sitting time	Mean h/week	No significant difference between intervention and control – intervention group had non-significant decrease; control group had a non-significant increase in sitting time.	–

*Includes unpublished results from personal communication with author.

+, represents interventions that had a significant reduction in SBs compared with the control group; –, represents interventions that were no significantly different than the control group;

AQuAA, Activity Questionnaire for Adolescents and Adults; IPAQ, International Physical Activity Questionnaire; PA, physical activity; SB, sedentary behaviour; SBI, Sedentary Behaviors Inventory; YPAS, Yale Physical Activity Survey.

Table S5 Physical activity and sedentary behaviour intervention study results

Reference		Intervention		Sedentary behaviour measurement			Sedentary behaviour results	Intervention effect
First author	Year	Focus	Length	Measure	Domain	Units		
Controlled trials								
Chang (70)	2013	PA + SB	8 weeks	IPAQ	Sitting time	Mean min/week	Intervention group had a significantly greater reduction in sitting time. Control had a non-significant decrease.	+
Dewa* (71)	2009	PA + SB	4 weeks	IPAQ	Sitting time	Mean min/weekday	No significant difference between intervention and control groups – the intervention group had a significant reduction; the control had a non-significant increase.	–
Randomized controlled trials								
Adams, M* (28)	2013	PA + SB	6 weeks	Sitting time inventory and accelerometer	weekly sitting and sedentary time	Mean h/week	No significant difference between intervention and control groups – intervention group had significant reductions in self-reported sitting time, but no significant changes in accelerometer sedentary time.	Self-report – Accel. –
Anand (72)	2007	PA + SB + diet	6 months	IPAQ	Screen time	Mean h/d	No significant difference between intervention and control groups – both had non-significant reductions.	–
Barwais (73)	2013	PA + SB	4 weeks	Sedentary log	Sedentary time	Mean h/d	Intervention group had a significantly greater reduction in sitting time. Control had a non-significant increase.	+
De Greef (74)	2011	PA + SB	24 weeks	IPAQ and Accelerometer	Sitting time and sedentary time	Mean min/d	Intervention group had significantly greater reductions in self-reported sitting time and accelerometer-measured sedentary time compared with the control group.	Self-report + Accel. +
Eakin* (75)	2010	PA + SB + diet	18 months	Accelerometer	Sedentary time	Mean min/d	No significant difference between intervention and control groups – control group had a significant increase in sedentary time.	–
French (76)	2011	PA + SB + diet	12 months	Questionnaire	TV viewing	Mean h/d	Intervention group had significantly greater reductions in TV time compared with an increase in the control group.	+
Jago (77)	2013	PA + SB	8 weeks	Questionnaire	TV time	% <2 h/d	Intervention group had significantly greater reductions in TV time compared with the control group.	+
Kozey-Keadle (55)	2014	PA + SB arm	12 weeks	ActivPAL	Sedentary time	% of day	Intervention group had a significant reduction in sedentary time. Control had a significant increase.	+
Kriska (33)	2012	Lifestyle (PA + SB)	N/A	Questionnaire	Sitting at work and TV time	Mean h/week	Intervention group had a significant reduction in sitting time at work and TV time. Control had a non-significant increase.	+
Lioret (78)	2012	PA + SB + diet	15 months	Questionnaire	Sedentary time	Mean min/d	No significant difference between intervention and control groups – both groups had a decrease in sedentary time.	–
van Berkel* (79)	2014	PA + SB + diet	6 months	Questionnaire	Sedentary time at work	Mean min/week	Post intervention (6 months): No significant difference between intervention and control groups. Midterm follow-up (12 months): No significant difference between intervention and control groups.	Post – Midterm –
Verweij (80)	2012	PA + SB + diet	6 months	Questionnaire	Sedentary time	Mean min/d	No significant difference between intervention and control groups – the intervention group had a significant reduction; the control had a non-significant decrease.	Total – Leisure time – Workday + Weekend –

*Includes unpublished results from personal communication with author.

+, represents interventions that had a significant reduction in SBs compared with the control group; –, represents interventions that were no significantly different than the control group; IPAQ, International Physical Activity Questionnaire; PA, physical activity; SB, sedentary behaviour.

Table S6 Sedentary behaviour intervention study results

Reference		Intervention		Sedentary behaviour measurement			Sedentary behaviour results	Intervention effect
First author	Year	Focus	Length	Measure	Domain	Units		
Controlled trials								
Alkhajah (81)	2012	SB only	3 months	ActivPAL	Sitting time at work and total day	Mean min/total 16-h day and /8 h workday	Intervention group had a significant reduction in workday (8-h) and total day (16-h) sitting time. Control had a non-significant decrease.	Total day + Workday +
Healy* (82)	2013	SB only	4 weeks	ActivPAL	Sitting time	Mean min/ 8-h workday	Intervention group had a significant reduction in sitting time. Control had a non-significant increase.	Workday +
Pronk (83)	2012	SB only	4 weeks	Questionnaire	Sitting time at work	Mean min/d	Post intervention (5 weeks): Intervention group had a significant reduction; the control had a non-significant increase. Short-term follow-up (7 weeks): no significant difference between intervention and control groups. Both groups significantly increased their sitting time (after desks were removed).	Post + Short-term –
Randomized controlled trials								
Carr (84)	2013	SB only	12 weeks	StepWatch	Sedentary time	Mean min/d % time sedentary	Intervention group had a significant reduction in min/d of sedentary time and non-significant reduction in % day sedentary. Control had a significant increase in minutes and non-significant decline in % day sedentary.	Minutes + % of time –
Gordon (85)	2013	SB only	10 weeks	ActivPAL, ActiGraph, IPAQ, SBQ	Sitting time at work Sedentary time (ActiGraph)	Mean min/8-h work day	No significant difference between intervention and control groups (approached significance for ActiGraph $P = 0.06$) – both groups had a reduction in sedentary time.	ActivPAL – ActiGraph – IPAQ – SBQ –
Kozey-Keadle (55)	2014	SB only arm	12 weeks	ActivPAL	Sedentary time	% of day	Intervention group had a significant reduction in sedentary time. Control had a significant increase.	+
Neuhaus (21)	2014	SB only	3 months	ActivPAL	Sitting time	Mean min/8-h work day	Intervention group had significantly greater reduction in sitting time at work than the control group.	+
Otten (86)	2009	SB only	3 weeks	TV monitor SenseWear Pro accelerometer	TV time Sedentary time	h/d % of day	Intervention group had significantly greater reduction in TV viewing time and reduction in % time spent sedentary than the control group.	TV monitor + Accelerometer +

*Includes unpublished results from personal communication with author.

+, represents interventions that had a significant reduction in SBs compared with the control group; –, represents interventions that were no significantly different than the control group; IPAQ, International Physical Activity Questionnaire; PA, physical activity; SB, sedentary behaviour; SBQ, Sedentary Behaviour Questionnaire.