

SUPPLEMENTARY TABLE 1

PAPER: Physical activity research in the first 15 years of the “45 and Up” cohort study: a narrative review and citation analysis published in Public Health Research and Practice, December 2022

SUPPLEMENTARY TABLE 1: INCLUDED PHYSICAL ACTIVITY RELATED STUDIES FROM 45 AND UP STUDY									
Author	Publ date	Citations	surveys_used	Approx sample size	Study design	Research_question [brief]	PA measures used	Prevalence low/inactive	Summary_PA findings
Banks	2008	522	B	36.6	xs	lifestyle outcomes following marital disruption	meet PAG 150min/week	17.5	NS PA overall following divorce or widowhood ; but more active recently widowed
Weber	2008	43	B	31.4	xs	women with osteoarthritis who consult acupuncture for OA treatm	active or inactive	33.0	association between PA and women with OA who consult acupuncture
Jorm	2010	17	B; Lin	4.9	coh-HS	spatial incidence of diabetes and PA	sessions/week PA; & walk to work (Ce	18.7	significant spatial correlation of PA with incident diabetes
Banks	2011	70	B	91.0	xs	correlates of self care in stroke patients	not using PA measures		physical activity was mentioned as a self care practice
Douglas	2011	12	B; Lin	103.0	coh-HS	PA --> retinal disease in people with diabetes	sessions/week PA mins/week; meetPAG	26.0	PA inversely associated with retinal disease treatment in people with diabetes
George	2012	15	B	18.0	xs	combined lifestyle behaviours --> psychological distress; PA includ	Sitting time/hrs	19.0	Low PA (adj OR 1.81) and high sitting (adj OR 1.37) increased psych distress
van de Ploeg	2012	601	B; Lin	222.0	coh	Describing the frequency and use of massage therapy	3 groups:1-low, 2 mod, 3 high active;	32.0	NS but trend for high active women more likely to seek massage therapists
Yorston	2012	57	B	91.0	xs	outdoor time and skin tanning -->risk of cataract requiring surgery	PA sessions/wk	16.0	trend low active less outdoor time
Astell-Burt	2013	23	B	215.0	xs	predictors of multi-morbidity	sessions/week gender stratified mins and sessions	17.7	PA makes small contribution to attributable multi-morbidity;median rank i18th of 20 risk factors
Astell-Burt, Fe	2013	128	B	260.0	xs	PA as contributor to clusters of risk factors and gender-stratified ir	W/M/V activity separately		PA, especially vigorous PA a contributor to the risk cluster that increases some cancers
Banks, Joshy et	2013	87	B; Lin	95.0	coh	facilities --> T2DM, moderated by crime	AA and walking mins/week		walking moderated relationship between crime and T2DM
George	2013	64	B	63.0	xs	T2DM - are behaviour change effects following diagnosis different	sessions of PA in quartiles		T2DM diagnosis effect on PA inconsistent; not geographically patterned
Griffin	2013	35	B , seef	2.6	coh sub study	PA as one ' self-management practice' for stroke patients	N/A		promoting PA (and other self care) for people with stroke
Gubhaju	2013	29	B	1.9	xs	smoking --> cataract; PA as covariate	sessions/week	17.6	no moderation by PA
Harris	2013	12	SEEF	39.9	xs	PA is a type of health service use by those diagnosed with depressi	N/A		PA identified as one of potential health services that could be used by those with depression
Korda	2013	24	B; Lin	267.0	coh-HS	BMI --> dementia , does change in behaviours moderate this relati	meet PAG 5 sess x 150 mins	24.5	PA related to reduced dementia risk, but doesn't explain BMI relationship
Lai	2013	21	B; Lin	158.0	coh	Prostatectomy correlates, PA as covariate , otherwise PA not stud	PA in tertiles		PA as covariate only
Lupton	2013	40	B	75.0	xs	PA --> Diabetic Foot Disease; PA as a covariate	MVPA minutes/week, meet PAG Mets (volume of PA, minutes x intensity)	54.0	Relationship of PA to having DFD, Odds ratio 0.63
Rogers	2013	5	B; Lin	205.0	xs	identify risk factors for stroke and health status measurements	intensity)	38.0	older age, and fatigue inversely associated with PA; high QoL +ve association with PA
Rosenkranz, Dun	2013	50	B	195.0	xs	PA -->prevalence of Diabetic Foot Disease , PA as a covariate	MVPA minutes/week, meet PAG "meet PA Guidelines" [not further	70.0	Prevalence of DFD among people with diabetes by health status factors
Shamshirgaran	2013	25	B	262.0	xs	colorectal cancer rates association with colon cancer screening (FC	specified]	50.0	active more likely to have CRC screening
Weber, Smith	2013	61	B	108.0	xs	psych distress --> incident CVD; PA is covariate	PA tertiles		high stress --> lower PA tertile
Astell-Burt, Feng	2014	99	B	204.0	xs	mental health measures --> suicide	sessions/week	68.0	PA as covariate, non signif association with mental health
Astell-Burt, Fe	2014	90	B	247.0	xs	in type 2 DM, does greenspace predict changes in PA, SB	total time Meet MVPA PA guidelines [methods		trend but not significant assoc between green space and changes in PA or SB among new T2DM
Astell-Burt, Fe	2014	146	B	267.0	xs	Assoc between country of birth & unhealthy lifestyles (PA is includ	not specified]	57.9	Differences in meeting PA guidelines by country of birth
Ding, Rogers	2014	47	B	192.0	xs	mental health --> suicides, self harm to 2017	sessions/week PA volume, high active 1000+ met-	67.6	PA (>7 sessions compared to none) not associated with mental health outcomes (suicide or self-harm)
Feng, Astell-Bu	2014	7	B	217.0	xs	women with chronic illness depression and (hypertension or heart	mins/week		women with hypertension+depression or CVD+depression less likely to be active cf without depression
Feng, Gerosi	2014	17	B; Lin	267.0	coh-HS	spatial analysis of walkability and BMI; PA assessed but not directl	sufficient PA	22.6	walkability index associated with overweight/obesity in Greater Sydney
Griffin, Sherma	2014	35	B	96.0	xs	diet --> cataract surgery risk among T2DM	sessions/week mets-adjusted		PA as covariate , not analysed
Joshy	2014	42	B; Lin	158.0	coh	chronic disease free status predicted by sum of healthy lifestyle at	sessions/week	15.6	high active more likely to be NCD free cf. low active; PA median rank 14th out of 20 lifestyle factors
Pedisc	2014	70	B; SEEF	26.5	coh	factors asociated with sitting time	>6 hrs sitting/day; PA <150mins/wk	18.9	PA inversely associated with sitting time , similar in those with NCDs
Smith, Weber	2014	35	B	106.0	xs	built environ --> T2DM , PA tested as mediator	AA and walking mins/week		PA and walking mediators, explained 6 and 11% of the association between local amenities and T2DM
Stamatakis	2014	45	SEEF	60.0	xs	factors associated with diabetes incidence	sessions/day		PA not independently related to reduced diabetes incidence
Steffen, Weber	2014	18	B; Link	196.0	coh	PA --> cataract surgery risk among T2DM	sessions/week mets-adjusted	26.4	PA >14 sessions protects against cataract surgery risk especially among obese
Tran	2014	15	B	198.0	xs	country of birth differentials among Lebanese Australians	150'/week	21.0	in this sub-population, no associations shown between PA and chronic disease
van der Ploeg,	2014	40	B; Link	221.0	coh	Self reported phys functioning post total knee replacement surger	sessions/week	49.9	PA sessions/week incrementally positively associated with higher Physical Functioning
Chiu & Lind	2015	11	B	34.0	xs	substudy of PA effects on depression risk in women with chronic d	sufficient PA; sessions/week	39.6	high levels of PA signif protective association with depression in women with chronic conditions
Comino, Harris	2015	51	B; Link	263.0	coh	prev contraception use and BP in postmenopausal women (PA is c	Sufficient/insufficient/per week	29.0	PA only covariate; previous hormonal contraception not related to BP
Ding, Chong, Ja	2015	43	B; SEEF	55.0	coh	risk profiles among Australians with a Lebanese background	150'/week, sit>7h/day	20.5	Lebanese -Australians are less active but report lower sitting time
Gebel	2015	193	B, link	205.0	coh	presence of CD --> Medicare claim; PA as covariate	sessions/week	30.1	Those with lower levels of PA & other risk factors more likely to claim a MBS chronic disease payment
Guo	2015	20	B	263.0	xs	describing characteristicsm of anti-depressant users among conce	PA sessions in tertiles		low PA more likely to use antidepressants
Paige	2015	9	B, link	112.0	coh-HS	PA --> hospital costs (Payments) in New South Wales	5 sessions, 150'/week	29.0	PA associated with \$328 lower hospital costs per person per year in NSW
Plotnikoff	2015	6	B	227.0	xs	walkability --> psychosocial distress, PA as covariate	150'/week	22.4	PA inversely associated with psychosocial distress; walkability not associated
Sarich	2015	16	B	267.0	xs	Assoc between measures of weight and weight change; PA is cova	Tertiles of physical activity sessions		exclude, PA is neither study factor or outcome; PA prevalence only in tertiles; how weight is measured
Stamatakis	2015	98	B., link	201.0	coh	health and acculturation effects among Vietnamese Australians	sess/week	31.6	social interaction and acculturation assicated with higher PA among Vietnamese Australians
Tran	2015	11	B	0.7	xs	health outcomes in T2DM by country of birth	PA covariate; low PA <5 sess/week	26.9	PA as significant covariate for some health outcomes in people with T2DM by country of birth
Gubhaja	2015	13	B	228.0	xs	PA as covariate for Weight change and risk of knee/hip surgery	PA minutes/Week, PAG	19.6	PA only as covariate; weight loss --> reduced risk of knee replacement

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Macniven	2016	23	B	59.5	xs	Patterns of preventive care through self report and association wit 3 categ: sedent;insuffic; sufficient PA		25.1	PA advice from GP was less frequently reported compared to clincial assessments.
Nguyen	2016	98	B, link	151.0	coh	Study protocol for health impacts of green space in Western Sydney			Protocol paper identified 7272 adults in 45 up in the study region; PA will be studied
Chong	2017	85	B, Seef	54.8	coh	cumulative risk factor scores for NCD among migrant populations	PA time		risk profiles differ among migrant populations; some, e.g. East Asians, Middle East, South American mig
El Masri	2017	10	B	37.4	xs	is area level walkability associated with geographic variation in PA	5 sessions MV, 150'/week; 5 sessions	30.5	stronger associaiton between walking and area-level walkability than shown for mod-vig activities
Jin	2017	38	B	266.7	xs	obesity correlates in Aboriginal Australians	sessions >10' each / week	29.7	low PA contributes to obesity risk among Aboriginal Australians
Mayne	2017	13	B	96.0	xs	PA --> psychol distress (depression) in men	sessions/week	30.8	levels of PA (protective effect) impact on psychol distress in men
Nguyen	2017	19	B	29.6	xs	Prevalence of T2D among vietnamese	sessions/week	31.4	Vietnamese had lower levels of PA compared to Australian born
Yang	2017	0	B	0.4	xs	physical function correlates:Aboriginal & non-Aboriginal Australiar	# sessions PA, sufficient PA		physical function inversely related to PA, interaction between Aboriginal and non-Aboriginal Australian
Astell-Burt	2018	2	B, W2	130.0	coh-HS	Lvl of PA --> HACC use; PA as a covariate	Sessions/week	29.4	Higher levels of sedentary behav leads to higher leves of HACC use
Mayne	2018	7	B	91.0	xs	Assoc between unhealthy lifestyle index (PA incl in index) and GP	PAG (30 mins MVPA on 5+ days/week		more PA reported fewer GP consultations [contrasts with other health behaviours and GP consults)
Nunez	2018	21	B, link	227.0	coh	does "low PA/high sitting" moderate the relationship BMI --> incid	PA minutes in tertiles	32.2	BMI -- DM not moderated by PA, sitting
Thurber	2018	15	B	214.0	xs	Assoc of Colorectal screening and incidence of CRC (PA covariate)	PA Vigorous PA hrs/week;		PA as covariate; CRC screened people show lower incidence of CRC
Chong	2019	6	B, Seef	18.0	coh	PA prevalence and correlates among Australian Aboriginal and noi	150'/week; high threshold 300'/week	19.6	describes different correlates of being active among Aboriginal Australians
Cramer	2019	3	B (substudy)	1.9	xs	CVD risk profiles by region of birth and acculturation	mins PA	39.0	PA higher among acculturated migrants; PA lower in people with NCDs; varies by region of origin
El Masri	2019	4	B	42.0	xs	PA/Sun exp/Phy func-->hip fracture risk.	sessions/week		unadjusted PA inversely associated with falls, but attenuated when adj for physical functioning
Marashi	2019	7	B,link	199.0	coh-HS	Quantify RR of hospitalisation to BMI; PA as covariate	sessions/week (tertiles)		Regardless of PA level, increasing rate of hospitalisation assoc increased BMI.
Mayne	2019	4	B	92.0	xs	PA --> colorectal cancer risk	150'/week Mod/walk or 75' vig PA	26.9	PA associated with lower colon cancer incidence, especially vigorous PA
McIntyre	2019	7	B	1.9	xs	R'ship bwn birth country/SES -->T2D; PA is covariate	sessions/week	19.7	Add PA the model with COB & SES had variable effects on diabetes risk; PA tested as moderator
Nguyen	2019	28	B,seef	32.0	coh	prevalence of PA in ATSI population	2 categories -sufficient & insuffic PA	36.0	Aboriginal participants less active and more sedentary time than non-Aboriginal participants
Shamshirgaran	2019	7	B	23.0	xs	lifestyle factors --> incident hypertension	150mins/week	17.0	low active show a 17% increased risk of hypertension
Shang	2019	5	B,link	52.0	coh	SES associations with unhealthy lifestyle index (includ.PA) but PA	5 sessions x30 mins		PA as part of Unhealthy lifestyle index, associated with social disadvantage - exclude
Stamatakis	2019	199	B,link	149.0	coh	measurement development of walkability index; describe spatial f	n/a		used 45up to develop walkability index; described this in relation to PA elsewhere
Wu	2019	4	B,link	9.1	coh	PA association with ethnicity and country of birth	mins/week		BMI varies among adults by ethnicity, but diet or PA alone cannot account for these differences
Shang	2020	1	B,link	54.0	coh	protocol paper only, PA part of brain health intervention; study in progress			protocol only
Zhang	2020	5	B,link	152.0	coh	identify factors associted Subjective Life Exp (SLE). PA is an exposu	sessions/week		reported PA not associated with estimated SLE
Erlangsen	2021	5	B,link	102.8	coh	PA --> physical function in older adults	mins/week	26.4	Higher levels of physical activity were associated with better physical function in older adults
Astell-Burt	2021	1	B, Seef/W2; link	144.0	coh	Parity/breastfeeding --> maternal high BP; PA as covariate	2 categories - sufficient/ insuffic PA, methods not stated	31.0	not reported, PA only as covariate
Dendup	2021	4	B,seef, W2	36.0	coh	Assoc between hospitalisation and demographic factors in people	Sufficient PA -->5 sess, 150 mins/wk	27.6	Those with Diabetes have higher risk factors including obesity and physical inactivity
Dendup	2021	2	B, seef,W2	36.0	coh	Incl. of sleep and SIT improves measurement of conventional lifest	SIT hrs/day	21.8	Including sleep but not sitting time improves prediction of multiple health-related outcomes
Ding	2021	0	B, Seef, W2	33.0	coh	clustering of behaviors (incl PA), and associations between cluster	Sessions/week; 3x30mins as PA guidel	58.0	clustering of behaviours including PA associated with physical and mental health
Erlangsen	2021	6	B;link	266.0	coh	Risk factors for Erectile Dysfunction; PA is factor	sessions/week	42.7	Increasing PA assoc with decreasing odds of Erectile dysfunction
Steinberg	2021	2	B; Link	222.0	coh	PA/Sitting time --> self rated health & QoI	PA - minutes/week; sitting categories	19.4	PA and sitting associated with self rated health and QoI, PA stronger association that sitting
						MVPA min/week: <150 mins; Sitting			standing time may confer small benefit on all-cause mortality after adj for PA, sitting; the
Thompson	2021	1	sub study	0.3	coh-HS	Associ between Standing time and All cause mortality (PA is covari	(hrs/day)	21.6	association standing and ACM somewhat stronger among the least physically active.
Wu	2021	0	B; Link	232.0	coh	Risk factors for Lower urinary tract symptoms (PA is a risk factor)	sessions/week (3 tertiles)		Increased PA associated with lower levels of urinary symptoms
Yan	2021	0	B; Link	9.0	coh	CVD risk profiles among Chinese-descent Australians	150' MVPA	25.8	low physical activity more prevalent among Australians from a Chinese background
Zhang	2021	1	B; Link	71.0	coh	Assoc between (gradations of) BMI --> risk of hospitalisation for C	Tertiles of physical activity	33.0	PA as covariate, and did not influence BMI - CVD hospital admission relationship
Sibritt	2021	1	B	13.0	xs	Level of PA --> colorectal testing; PA as a covariate	Sufficient/insuff/sedentary - 3 categor	31.0	relationship of PA to FOBT and other colorectal screening
Ahmed	2021	1	B; Lin	28.0	coh	Incidence of T2D and risk factors of T2D (PA risk factor)	sitting ,sleeping hrs/day; PA - mins/we	17.7	PA was not significantly associated with incident T2D
Ahmed	2021	1	B; Lin	28.0	xs	poor oral health -- hospital admissions and mortality risk; PA as co	sess/week		PA as covariate only
Jin	2021	7	B; SEEF;Lin	24.0	coh	sitting association with chronic disease in males	sitting hrs quartiles; PA mins /week	19.2	sitting time significantly assoc with having CD [reported DM,cancer, heart disease, diabetes, BP]
Welsh	2021	1	SEEF; Lin	83.0	coh	socioeconomic position --> Sedentary behaviour	PA mins /week	19.6	SES gradient of total sitting; No PA specific findings
George	2022	0	B-NS	16.0	xs & coh	Sedentary behaviours --> Obesity	Sessions/week	29.4	Effect of screen-time on obesity indep of PA . Interventions needs to consider sedentary behaviour
Han	2022	0	B; Lin	137.0	coh	Assoc between sitting --> BMI (PA as covariate)	sitting hrs/day; PA <150'/week	15.9	no significant relationship total sitting time and changes in BMI; reverse directionality also proposed
Ladanyi	2022	0	B	2.0	xs	change in lifestyle behaviours among newly diagnosed T2DM	PA mins/week		non signif difference in newly diagnosed DM in mod,vig PA, walking or sitting time
Sibbritt	2022	0	B	1.3	coh	Assoc between erectile dysfunction and CVD/ PA covariate	sessions/week	42.9	PA as covariate, no exposure or outcome data reported [but did report prevalence]

Legend: surveys used: B -baseline only, link -linked data, Seef-part of W1 follow up, NS not seef W1 follow up, W2 wave 2 follow up; approx sample size: in thousands; Study design: xs cross sectiona; coh- cohort coh-HS health service/disease linked data