

Supplemental Table. Examples of nationally representative studies and large cohorts with device-measures

Survey or cohort	Dates	Participant ages	Device	Wear location/time	Approximate sample size
National Health and Nutrition Study of Japan ¹	Annually since 1989	15 and older (20 and older since 2012)	Pedometer Yamasa AS-200	Waist/waking	n ~ 3,500-4,000 per year
National Health and Nutrition Examination Survey (NHANES) ^{2 3}	2003-2006	6 and older	ActiGraph AM-7164	Waist/waking	n ~ 7,000 per cycle
	2011-2014	3 and older (ages 6 and older for 2011 only)	ActiGraph GT3X+	Non-dominant wrist/24-hours	
Portuguese Population Study ⁴	2006-2008	10 and older	ActiGraph GT1M	Waist/waking	n ~ 4,700
Norwegian Children Study ⁵	2005-2006	9 and 15 years	ActiGraph 7164	Waist/waking	n ~ 2,300
Canadian Health Measures Survey ⁶	2007-2009 2009-2011 2012-2013 2014-2015 2015-2017	3-79 years (ages 6-79 for cycle 1 2007-2009)	Actical	Waist/waking	n ~ 5,000 per cycle
Health Survey for England ⁷	2008	4 and older	ActiGraph GT1M	Waist/waking	n ~ 2,000
Australian National Nutrition and Physical Activity Survey (NNPAS) ⁸	2011-2012	5 and older	Pedometer G sensor model 2026	Waist/waking	n ~ 6,000
Finnish Health 2011 Study ⁹	2011-2012	18-85 years	Hookie AM1 20	Waist/waking	n ~ 1,500
Swedish Attitude, Behavior and Change (ABC) Study ¹⁰	2002 2008	18-74 years	ActiGraph MTI (2002) ActiGraph 7164 (2008)	Waist/waking	n ~ 1,100 and 500
Latin American Study of Nutrition and Health (ELANS) ¹¹	2014-2015	15-65 years	ActiGraph GT3X	Waist/waking	n ~ 2700
Selected Large (n >1000) cohorts					
European	1997-1998	9-15 years	MTI	Waist/waking	n ~ 4,000

Youth Heart Study (EYHS) ¹²			ActiGraph 7164		6- and 12- year follow-up completed in certain countries
Avon Longitudinal Study of Parents and Children (ALSPAC) ^{13 14}	2001-2009	Children: 11/12 years 13/14 years 15/16 years	ActiGraph AM 7164 or ActiGraph GTM1	Waist/waking	n ~ 6,000 children subsample
Personal and Environmental Associations with Children's Health (PEACH) ¹⁵	2006-2008	10-11 years	ActiGraph GT1M	Waist/waking	n ~ 1,300
Child Heart and Health Study in England (CHASE) ¹⁶	2006-2007	9-10 years	ActiGraph GT1M	Waist/waking	n ~ 2,000
Sport Physical Activity & Eating Behaviour: Environmental Determinants in Young People (SPEEDY) ¹⁷	2007	9-10 years	ActiGraph GT1M	Waist/waking	n ~ 2,000
Identification and Prevention of Dietary- and Lifestyle- Induced Health Effects in Children and Infants (IDEFICS) ¹⁸	2007-2008	2-11 years	ActiGraph ActiTrainer or GT1M	Waist/waking	n ~ 7,000
Millennium Cohort Study ¹⁹	MCS4: 2008-2009	7 years	ActiGraph GT1M	Waist/waking	n ~ 4,000
	MCS6: 2015-2016	14 years	GENEActiv	Wrist/24-hours	
Activity and Function of the Elderly in Ulm (ActiFE Ulm) ²⁰	2009-2010	65 and older	ActivPAL	Thigh/24-hours	n ~ 1,200

REasons for Geographic and Racial Differences in Stroke (REGARDS) ancillary study ²¹	2009-2013	black and white participants, 45 and older	Actical	Waist/waking	n ~ 8,000
Western Australian Pregnancy Cohort (Raine) Study ²²	2011	22-23 years	ActiGraph GT3X+ x 2	Waist + wrist/24-hours	1989 Birth cohort n ~ 2,000 Year 22: n ~ 900
International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE) ²³	2011-2013	9-11 years	ActiGraph GT3X+	Waist/24-hours	n ~ 7,000
Pelotas Birth Cohorts ²⁴	2004 Cohort 2010	~6 years	GENEActiv	Wrist/24-hours	n ~ 2,600
	1993 Cohort 2011	~18 years	GENEActiv	Wrist/24-hours	n ~3,600
	1982 Cohort 2012-13	~30 years	GENEActiv	Wrist/24-hours	n ~2,700
Women's Health Initiative – Objective Physical Activity and Cardiovascular Health ancillary study (OPACH) ²⁵	2012-2014	women 63 and older	ActiGraph GT3X+	Waist/waking	n ~ 7,000
German National Cohort Study ²⁶	2013-2019	20-69 years	ActiGraph GT3X+	Waist/24-hours	n ~ 200,000
Tromsø Study ²⁷	Tromsø 7: 2015-2016	40 and older	ActiGraph wGT3X-BT	Waist/24-hours	n ~ 6,300
UK Biobank ²⁸	2013-2015	45-79 years	Axivity AX3	Wrist/24-hours	n ~ 100,000
Nord-Trøndelag Health Study (HUNT) 4 ²⁹	2017-19	13 and older	Axivity AX3 x 2	Thigh + lower back/24-hours	n ~ 38,000

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