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Table A. Overview of cohort-specific questionnaires and accelerometry on physical activity and sedentary behaviour

Cohort	Physical Activity / sedentary behaviour
ABCD	<p>Questionnaire on physical activity. Questions on 5-6 and 7-8 years old:</p> <ul style="list-style-type: none"> - 'How many hours a day does your child play outside in the summer?' (same question for the winter) - 'How many times a week does your child walk to or from school?' (same question for cycling) - 'How many hours a week does your child play sport at sport club(s)?' <p>Questionnaire on sedentary behaviour. Questions on 5-6 and 7-8 years old:</p> <ul style="list-style-type: none"> - 'How many hours a day does your child watch television, a DVD or a video at home or at a friend's house?' - How many hours a day does your child sit at home or at a friend's house playing on the computer, Playstation or X-box?
ABIS	<p>hours per day in exercise playing outside jumping running</p> <p>hours per day TV, watching computer internet</p>
BAMSE	<p>Parental questionnaire at age 8 years: Does your child participate in any type of organized physical activity or sport (excl school phys.)?</p> <p>Parental web-questionnaire at age 12 years: Does your child engage in sports or physical activity in his/her leisure time? How long does your child exercise on each occasion, on the average?</p> <p>Participant web-questionnaire at age 16 years: Over the past 12 months, how many hours during an ordinary week have you engaged in very strenuous activities? Over the past 12 months, how many hours during an ordinary week have you engaged in fairly strenuous activities? Over the past 12 months, how many hours during an ordinary week have you engaged in activities that are not strenuous? At school, how many class hours of physical education do you participate in per week? How many hours per day do you watch TV, use a computer, play computer- or video games or read?</p>
CHOP	<p>Questionnaire at age 3-6 years Hours/day</p> <p>Questionnaire at age 8, 11 years PAQ-score</p> <p>Accelerometry at age 6, 11 years Sensewear Pro Armband, epoch length 60 seconds, total energy expenditure, sleeping time, time in different activity levels. Count cut-offs based on METs: 0-3 sedentary 3-6 moderate 6-9 vigorous Above 9 very vigorous</p>
COPSAC ₂₀₀₀	<p>Accelerometry at age 5 years Omnidirectional Actical accelerometer (Philips Respironics, Murrysville, PA)</p>
DNBC	<p>Computer-assisted telephone interview with the mother (child age 1.5 years): D149: Do you think he/she is MORE or LESS active than kids the same age?</p> <p>Web-based or paper-mailed questionnaire to mother/parent (child age 7 years): Z014: "How many hours is your daughter physically active in kindergarten, school or at the leisure centre/school leisure centre, e.g. running, hopping, climbing, cycling, training sport or other activities, which require a lot of movement (Tick one box only)?" Z015: "How many hours is your daughter physically active with e.g. running, hopping, climbing, cycling, training sport or other activities, which require a lot of movement? Please assess how physically active she is on a normal weekday after kindergarten, school or the leisure centre/ school leisure centre compared to a normal day during the weekend. (Tick one box in each column)" Additional relevant questions: Z070: Is she/he "Restless, overactive, cannot stay still for long",</p>

	<p>Z076: where you (the mother) “restless, “hyperactive”, had problems keeping quiet long” in childhood?</p> <p>Web-based questionnaire to child when aged 11 years:</p> <p>E057: How many sports lessons per week (lessons of 45 minutes) does your school timetable include?</p> <p>E058: Do you get out of breath or break sweat during the sports lessons?</p> <p>E059: How do you usually use your body during the breaks? Think about the last month when choosing your answer.</p> <p>E060 How do you usually use your body during your leisure time? Think about the last month when choosing your answer.</p> <p>E061: Do you do sports in your leisure time?</p> <p>E062_1-12: What kind of sports do you do? Tick all the activities you participate in.</p> <p>E062_1A - 12A: How many times per week do you play [asked for each kind of sport mentioned in E062_1-12]</p> <p>E063-E066 may be considered questions on activity or inactivity. They are described in under physical inactivity.</p> <p>Additional relevant questions to adult: Is she/he “Restless, overactive, cannot stay still for long”</p> <p>Web-based or paper-mailed questionnaire to mother/parents (child age 7 years):</p> <p>Z016: How many hours is your daughter physically inactive on a normal weekday/day during the weekend, i.e. rests, sleeps during the day, reads, watches TV, plays computer games, is tutored, etc. after school or school leisure centre/leisure centre? (Tick one box in each column).</p> <p>Web-based questionnaire to child when aged 11 years:</p> <p>E049/E050: How much of your leisure time do you spend in front of the computer? Count all the time you sit in front of a computer. (Weekday computer).</p> <p>E051/E052: How much of your leisure time do you spend playing computer games? (Both on a computer or on a Playstation, Xbox, PSP, Nintendo, Wii). (Weekday gaming).</p> <p>E053/E054: How much of your leisure time do you spend watching tv? (include DVD/video or watching films on your computer). (Weekdays TV/DVD/Video).</p> <p>E055/E056: How much of your leisure time do you spend reading, playing boardgames, drawing, resting, etc.? (including homework). (Weekdays read, play, rest).</p> <p>E063: How do you usually get to school?</p> <p>E064: How long does it usually take you to get to school?</p> <p>E065: How do you usually get back from school?</p> <p>E066: How long does it usually take you to get back from school?</p>
EDEN	Questionnaire at age 0-2 and 3-5 years on physical activities and sedentary behaviour in hours per week.
G21	<p>Questionnaire on physical activity (How many hours per day does your child play outside during week days? And, how many hours per day does your child play outside during the weekend?)</p> <p>Questionnaire on physical inactivity (How many hours per day does your child watch television, plays videogames, during week days? And (How many hours per day does your child watch television, plays videogames, during the weekend?)</p>
Gen R	<p>Playing outside (no of times (4, 6, 9y) and duration (3, 4, 6, 9y))</p> <p>Walking or cycling from/to school (no of times and duration (6, 9y))</p> <p>Participation in sports (duration (9y))</p> <p>Physical education lesson (no of times and duration (6y))</p> <p>Swimming lesson (no of times and duration (6y))</p> <p>Watching TV/video/DVD (no of times (4, 6, 9y) and duration (2, 3, 4, 6, 9y))</p> <p>Computer use (no of times (6, 9y) and duration (3, 6, 9y))</p> <p>NB: at 2, 3, 6 and 9y separate for weekday and weekend</p>
GINIplus	<p>Questionnaire on physical activity at age 6: “How many hours per day does your child spend outside during summer/during winter?”;</p> <p>Questionnaire on physical activity at age 10 and 15: How many hours per week during summer/during winter does the child spend in</p> <p>light activity (no sweating, normal respiration, e.g. walking)</p> <p>moderate activity (some sweating, moderately increased respiration, e.g. cycling, swimming, skating)</p> <p>vigorous activity (strong sweating, fast respiration, e.g. ball games, training)</p> <p>Questionnaire on sedentary behaviour at age 6, 10 and 15: “How many hours per day does your child spend in front of a screen (TV, PC)?” (for 10 and 15 years, it was differentiated between summer and winter)</p>
HUMIS	3 year questionnaire:

	<p>"How often is your child outside at present? Seldom; Frequently, but less than 1 hour a day on average; 1-3 hours a day on average; more than 3 hours a day"</p> <p>"How many hours on average does your child sit in front of a TV/video every day? 4 hours or more; 3 hours; 1-2 hours; less than 1 hour; seldom/never"</p> <p>7 year questionnaire:</p> <p>"Outside of school, on a regular week day: How many hours per day does the child usually spend watching TV, videos, playing electronic video games, DVDs or using a computer? Summer... Winter... Less than 1 hr per day; 1-2 hrs/day 3-5 hrs/day >5 hrs or more/day"</p> <p>7 year questionnaire:</p> <p>"Outside of school: Approximately how many times per week is the child physically active/ takes part in sports such that he/she become short of breath or sweaty? X times per week"</p> <p>"Outside of school: Approximately how many hours per week does the child spend on physical activity/sports (soccer, handball, skiing or gymnastics/dance or similar)? <1 hr/wk; 1-2 hr/wk; 3-4 hr/wk; 5-7 hr/wk; 8-10 hr/wk; 11 hr/wk"</p> <p>"Outside of school on a regular week day: Approximately how many hours per day is the child usually outdoors? Summer / Winter X hrs/day"</p> <p>"How often does the child get to school by? Walking/riding a bike... Car... Public transportation: never; sometimes; usually; always"</p> <p>"How far is the child's home from school? Less than 1 km; 1-2 km; 3-4 km; >4 km"</p>
INMA	<p>Global physical activity (questionnaire on physical activity): "Overall, considering all physical activity of your child: Do you think your child is?"</p> <p>Physical activity at school (questionnaire on physical activity): "How long usually do physical activities in the school? Include pool and playing in the yard. Specify activities"</p> <p>Energy expenditure in physical activity at school (Calculations based on activities specified in the previous question) **</p> <p>Walk to school (questionnaire on physical activity): "How usually your child goes or comes back to school? 1 walking min/day: going____ return____"</p> <p>Energy expenditure walk to school (Calculations based on **)</p> <p>Extracurricular physical activity(questionnaire on physical activity): (see annex 1) "During a typical week, how long your child usually does extracurricular physical activity each day, (for example. dance lessons / swimming) or just play, running, biking, skating, swimming, etc. (exclude play Wii games and the trip to school). Specify activities."</p> <p>Energy expenditure in extracurricular physical activity (Calculations based on activities specified in the previous question) **</p> <p>Physical inactivity (Sum of inactivity questions): "How many hours a day usually sleeps your child? Including naps" "How many hours your child spend watching tv or videos a day?" "Outside school hours, how much time your child spends in sedentary games or activities (eg puzzles, reading, dolls / games, homework, etc.) a day? (Exclude television, videos and Wii-sports)"</p> <p>Energy expenditure in physical inactivity (Calculations based on activities specified in the previous question)**</p>
KOALA	<p>Questionnaire at age 1-2 years: How often does your child play outside? How often does your child watch TV? How often does your child play on the computer?</p> <p>Questionnaire at age 4-5 years and 6-7 years: How often does your child walk or cycle to school? How often does your child sport on school? How often does your child sport outside of school? How often does your child play outside? How often does your child watch TV? How often does your child play on the computer? How often does your child sit in the car?</p> <p>Accelerometry data at age 4-5 years and 6-7 years: Actigraph 7164 during day time for at least 5 days. Epoch length 15 seconds. Counts per minute. Four intensity levels: sedentary, light, moderate and vigorous PA based on cut-off values established by Evenson et al.</p>
Lifeways	Hours activity/inactivity

LISA	<p>Questionnaire on physical activity at age 4 and 6: “How many hours per day does your child spend outside during summer/during winter?”;</p> <p>Questionnaire on physical activity at age 10 and 15: How many hours per week during summer/during winter does the child spend in</p> <ul style="list-style-type: none"> • light activity (no sweating, normal respiration, e.g. walking) • moderate activity (some sweating, moderately increased respiration, e.g. cycling, swimming, skating) • vigorous activity (strong sweating, fast respiration, e.g. ball games, training) <p>Questionnaire on sedentary behaviour at age 4, 6, 10 and 15: “How many hours per day does your child spend in front of a screen (TV, PC)?” (for 10 and 15 years, it was differentiated between summer and winter)</p>
LRC	<p>Age 4-8 (2001) At the weekend, how many hours per day does your child usually: Play outdoors? Watch TV or play video games? Which of the following descriptions fits your child best? (categories: Not very active, moderately active, or very active)</p> <p>Age 6-10 (2003) At the weekend, how many hours per day does your child usually: Play outdoors? Watch TV or play video games? On average, how many hours a week does your child spend on sports, games or vigorous physical activity? How does your child usually go to school? (categories: by walking, by car, by bus, by bicycle) Which of the following descriptions fits your child best? (categories: Not very active, moderately active, or very active)</p> <p>Age 9-13 (2006) On average, how many hours a week does your child spend on sports, games or vigorous physical activity? Which of the following descriptions fits your child best? (categories: Not very active, moderately active, or very active)</p> <p>Age 13-17 (2010) In the past month, did you participate in any physical activities or exercises such as running, football, fitness, gym, or other active sports? IF YES: What activity? How often In a typical week, do you do vigorous physical activities for at least 10 minutes at a time? IF YES: On how many days do you do vigorous physical activities in a typical week days per week? How much time in total do you usually spend on one of those days doing vigorous physical activities? In a typical week, do you do moderate physical activities for at least 10 minutes at a time? IF YES: On how many days do you do moderate physical activities in a typical week days per week? How much time in total do you usually spend on one of those days doing moderate physical activities? How many hours per day do you spend, on average, doing following activities, outside working or school time? Watching TV, computer games, video games Quiet activities: reading, studying, listening to music</p>
Lucki	<p>How often does your child walk or cycle to school? How often does your child sport on school? How often does your child sport outside of school? How often does your child play outside? How often does your child watch TV? How often does your child play on the computer? How often does your child sit in the car?</p>
PIAMA	<p>Age 5, 7, 8: - cycling/ walking to school (time per day) - frequency physical education (gym) at school - sport club membership (incl swimming lessons, ballet etc) - time spent (per day) in physically active play (e.g. ball games, playing tag, skipping rope) - playing outside (times p. week) - watching TV/ video's / computer (hrs p.d.)</p>

	<p>Age 11:</p> <ul style="list-style-type: none"> - cycling/ walking to school (time per day) - Sport frequency (incl sport outside sport club) (times p.wk) - sport club member yes/no - use of asthma medication when sporting (never, sometimes, most of the time) - number of days p. wk on which physically active during at least 1 hr - TV/ video/ dvd (days p. wk and time p. day) - computer/ Gameboy (days p. wk and time p. day) <p>Age 14:</p> <p>Questions age 11 + On how many days p. wk intensive phys act (with sweating and heavy breathing) during at least 0.5 hr</p> <ul style="list-style-type: none"> - TV/ dvd (days p. wk and time p. day) - computer (incl laptop, lpad, spel-computer, etc) (days p. wk and time p. day) <p>Age 17:</p> <p>Questions on age 14 + Cycling (days p. wk and time p. day)</p> <p>Time spent sedentary per day during transport; during work or school/ study; with TV, computer, tablet, smartphone; during other leisure time activities</p>
SEATON	<p>Fels PAQ</p> <ol style="list-style-type: none"> 1. In the last year, what sports did your child play at school (e.g. dancing, walking, jogging, running, badminton, tennis, basket ball, football, rugby, field hockey, aerobics)? 2. In the last year, what sports or physically active games did your child play outside of school (e.g. dancing, dog walking, running, football, rugby, field hockey, skateboarding, bicycle riding, bowling)? 3. When my child plays sports or games (s)he sweats 4. During leisure time my child plays sports 5. During leisure time my child watches television or reads 6. How often does your child walk and/or bicycle to and from school? 7. What jobs around the house does your child do that are physically active and how often do they do them (e.g. carrying laundry baskets, carrying food bags, watering flowers, weeding garden, feeding pets, walking large pet, picking up rubbish, picking up sticks, mowing the lawn)?
Steps Study	<p>At 1, 2 and 4 yrs: "How many hours per day does your child play outside?" Additional questions about attitudes towards physical activity. At 5 yrs: "Does your child attend an instructed sports (or related) activity? How many times per week, how long time per session"</p> <p>Yearly 1 to 5 years: "How many hours per day does your child watch television, DVD, play videogames, use computer?"</p>
SWS	<p>Hours actively on the move per day (derived from detailed questions about time spent sleeping, sitting etc)</p> <p>Questionnaire:</p> <p>On a typical day, how many hours does he/she generally spend watching television?</p> <p>Hours sitting per day (derived from detailed questions about time spent sleeping, sitting etc)</p> <p>Accelerometry at age 3-5 years:</p> <p>Epoch length 60 seconds. Counts per minute (cpm), intensity levels light (>20 cpm), moderate (>400 cpm), vigorous (>600 cpm) during day time.</p>
WHISTLER	<p>Transportation to school (walking, cycling), outside of school walking, cycling, playing outside, playing inside, sports.</p>

Table B. Overview of cohort-specific questionnaires on asthma, wheeze, and medication use

Cohort	Asthma definition / wheeze / medication use
ABCD	ISAAC based questionnaire at age 7-8 years: <i>'Has your child ever had asthma? If yes, was this diagnosed by a doctor?'</i> <i>'Has your child ever had wheezing or whistling in the chest at any time in the past?'</i> and <i>'Has your child had wheezing or whistling in the chest in the past 12 months?'</i> No specific question about asthma medication. Only a general question about medicine use on 5 years old. <i>'Has your child been prescribed medicine by a doctor in the last 6 months?'</i>
ABIS	Parental questionnaire/ISAAC, and physician-diagnosed, health register data
BAMSE	At least 3 episodes of wheeze in the last 12 months and/or at least 1 episode of wheeze in the last 12 months combined with prescription of inhaled steroids for symptoms of asthma. Has a doctor diagnosed your child as having asthma? At least 1 episode of wheeze in the last 12 months Has your child been prescribed any medicines for treatment of asthma or breathing difficulties the last 12 months?
CHOP	Did a physician ever diagnose asthma in your child No question on wheeze Medication use in general (not specifically for asthma)
COPSAC ₂₀₀₀	Physician diagnosed asthma
DNBC	Web-based or paper-mailed questionnaire to mother/parent (child age 7 years): Z048. Has your child ever had asthma? Z051. Has a doctor ever said that your daughter/son had asthma? Web-based questionnaire to adult when child aged 11 years: F085 Has [child name] ever had asthma? (no questions on doctor-diagnosis) F086 How old was [child name] when [child name] had [his/hers] first asthma attack? F087 Has [child name] had an asthma attack in the past year? F088 How old was [child name] when [child name] had his/ her latest asthma attack? F097 Has [child name] a peakflow-meter at home? Web-based or paper-mailed questionnaire to mother/parent (child age 7 years): Z043. Has your child ever had wheezing or whistling in the chest at any time in the past? Z044. Has your child had wheezing or whistling in the chest in the last 12 months? Z045. How many attacks of wheezing has your child had in the last 12 months? Web-based questionnaire to adult when child aged 11 years: F082 How many periods of wheezing has [child name]s had during the past year? F089 Has [child name]s breathing sounded wheezy during or after exercise in the past year? (and more questions on nightly cough etc) Web-based or paper-mailed questionnaire to mother/parent (child age 7 years): Z052. Has your daughter/son taken asthma medicine during the past 12 months? If yes: Which type of medicine? Web-based questionnaire to adult when child aged 11 years: F091 Has [child name] been given medicine for [his/hers] wheezy breathing or asthma (e.g. inhalators, spray or pills) in the past year? F092_1-4 What type of medicine has [child name] received? F093, F094, F095: What was the name of the type? How often has [child names] received these products?
EDEN	Physician-diagnosed asthma, ISAAC questionnaire
G21	ISAAC based questionnaire (4 and 7 years of age): "has you child ever had asthma diagnosed by a doctor?" "if so, in the last 12 months, has your child had an asthma attack?" ISAAC questions on physician diagnosed allergy, eczema, rhinitis. ISAAC based questionnaire: <i>"Has your child ever had wheezing in the chest?"</i> <i>"Has your child ever had wheezing in the chest in the past 12 months?"</i> number of wheezing attacks in the last 12 months. <i>"In the last 12 months, how often did he/she wake up due to wheezing?"</i> <i>"In the last 12 months, did he/she become short of breath during a conversation due to wheezing?"</i>

	Questionnaire: "Did your child use any prescription medication in the past 12 months for asthma?" (name of the medication/quantity per day/how many times per day/duration (days)) (4 years)
Gen R	ISAAC based questionnaire: "has your child ever had asthma diagnosed by a doctor?" "has your child ever suffered from a whistling noise in the chest?" (1y); "has your child had problems with a wheezing chest during the last year?" (2,3, 4, 9y); "Did your child ever suffer from chest wheezing?" "If yes, during the past 12 months, did you child ever suffer from chest wheezing?" (6y) Questionnaire: "Did your child use any prescription medication in the past 12 months for complaints of the lungs, allergy or skin?"
GINIplus	Questionnaire (at each follow-up): it was asked from birth to age 15 for each year of life since the previous follow-up whether the child was diagnosed with asthma by a physician ("doctor diagnosis at the age of x years: asthma") Questionnaire (at 6, 10, 15 years): "Has your child ever had asthma?" Questionnaire (at each follow-up): "Has your child had wheezing or whistling in the chest in the past 12 months?" (asked for age 1,2,3 and 4) "Has your child had wheezing or whistling in the chest during the past 12 months?" (asked at ages 6, 10 and 15) Questionnaire: at age 6: "Has your child been treated for asthma in the 5 th or 6 th year of life?" at ages 10 and 15: "Has your child been treated for asthma in the past 12 months?"
HUMIS	Has your child ever suffered, or is currently suffering from any of the following long-term illnesses or health problems? Asthma... no/yes; If yes, was the illness/problem confirmed by a doctor. Additionally, linkage to Norwegian Patient Registry "Has the child ever had, or does the child have, any of the following symptoms or health problems? Tightness/wheezing/whistling in the chest... Tightness/wheezing in the chest during or after physical exercise no/yes; At what age? 3 years or older; Number of times last 12 months: XX" "During the last year, has the child used medication, spray, inhaler or other medications for treatment of asthma? No/yes; If yes, Name of medication used on a regular basis: XXX; Name of medications used during attacks: XXX; When did your child last use medications for asthma? Yesterday; Last 7 days; Last month; Last year"
INMA	Parental questionnaire "In the last 12 months, Has your child had ever suffered asthma?" "Has your child ever been diagnosed by a doctor as having asthma?" Parental questionnaire "Has your child ever had wheezing in the chest in the past 12 months?" "Has your child ever had wheezing in the chest in the past 24 months?" Parental questionnaire "Has your child taken any medicines for asthma in the last 24 months? (include any inhalers, nebulisers, tablets, oral corticosteroids or liquid medicines)" "Has your child taken any medicines for asthma/breathing difficulties in last 12 months?"
KOALA	ISAAC questionnaire on asthma, wheezing, physician diagnosed asthma, asthma medication use
Lifeways	Questionnaire/physician diagnosed.
LISA	Questionnaire (at each follow-up): it was asked for ages 1, 1.5, and 2 years whether the child was diagnosed with asthma by a physician during the past 6 months it was asked from age 3 to age 15 for each year of life since the previous follow-up whether the child was diagnosed with asthma by a physician ("doctor diagnosis at the age of x years: asthma") Questionnaire (at 6, 10, 15 years): "Has your child ever had asthma?" Questionnaire (at each follow-up): "Has your child had wheezing or whistling in the chest during the past 6 months?" (asked for age 0.5, 1, 1.5 and 2)

	<p>“Has your child had wheezing or whistling in the chest during the past 12 months?” (asked at age 4, 6, 10 and 15)</p> <p>Questionnaire:</p> <p>at age 6: “Has your child been treated for asthma in the 5th or 6th year of life?”</p> <p>at ages 10 and 15: “Has your child been treated for asthma in the past 12 months?”</p>
LRC	<p>Age 1-5 years (1998) and 4-8 years (2001):</p> <p>Has any doctor or hospital told you that he/she has asthma or bronchitis?</p> <p>Does your child attend a clinic or see a doctor for wheezing? (or asthma or bronchitis?)</p> <p>Has your child had wheezing or whistling in the chest in the last 12 months?</p> <p>Has your child ever taken any medicine for wheezing? (or asthma or bronchitis)</p> <p>6-10 years (2003):</p> <p>Has any doctor or hospital told you that he/she has asthma or bronchitis?</p> <p>Has your child had wheezing or whistling in the chest in the last 12 months?</p> <p>Did your child take any of the following during the last 12 months? (Salbutamol, Ventolin, Bricanyl, Pulmicort, Flixotide, Becotide, Beclovent, Serevent, Seretide, Symbicort)</p> <p>Age 13-17 years (2010):</p> <p>Have you ever been diagnosed with asthma by a doctor or a nurse?</p> <p>Have you had wheezing or whistling in the chest in the last 12 months?</p> <p>In the last 12 months, did you take any of the following medicines or inhalers? (Salbutamol, Ventolin, Bricanyl, Pulmicort, Flixotide, Becotide, Beclovent, Serevent, Seretide, Symbicort)</p>
LucKi	<p>ISAAC questions on physician diagnosed asthma (bronchitis, allergy, eczema) and prescribed asthma medication.</p> <p>Full ISAAC module questions on wheeze (number of attacks etc.)</p> <p>Pharmacy registry data</p>
PIAMA	<p>At ages 1,2,3,4,5,6,7,8,11,14,17: ISAAC questions</p> <p>At ages 3,4,5,6,7,8,11,14,17 ‘MeDALL asthma definition’ (= presence of 2 out of the 3 following items: doctor diagnosed asthma ever; wheeze in the last 12 months; use of asthma medication in the last 12 months)</p> <p>At ages 3,4,5,6,7,8,11,14,17: questionnaire based different types of asthma medication, incl ICS and bronchodilators</p>
SEATON	Physician diagnosed asthma
Steps Study	<p>ISAAC based questionnaires on asthma and wheezing</p> <p>“Did a physician ever diagnose asthma in your child?”</p> <p>“Did your child ever experience wheezing?”</p> <p>“Did your child experience wheezing during the last 12 months?”</p> <p>Questions on frequency and severity of wheezing symptoms during the last 12 months</p> <p>Open question on medications:</p> <p>“Does your child have any long-term medication? Please name the medication”</p>
SWS	<p>Questionnaire asking about physician-diagnosed asthma</p> <p>ISAAC questionnaire</p> <p>ISAAC Questionnaire: Has he/she received inhalers or other medication for asthma prescribed by a doctor in the past 12 months?</p>
WHISTLER	<p>Did your child ever suffer from asthma?</p> <p>Did your child ever suffer from wheezing?</p> <p>Did your child suffer from wheezing in the last 12 months?</p> <p>Pharmacy registry data and GP registry data</p>

Table C. Covariables of participating cohorts

Cohort (country)	n	Sex		Gestational Age		Birth weight		Parity		Parental history of asthma		Parental history of atopy		Maternal smoke in pregnancy		Environmental Tobacco Smoke	
		boy %(n)	missing %(n)	mean (SD)	missing %(n)	mean (SD)	missing %(n)	firstborn %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)
ABCD (Netherlands)	2,887	51.3 (1,481)	0.0 (0)	39.5 (1.7)	0.2 (5)	3499 (533)	0.5 (14)	57.8 (1,670)	0.0 (0)	14.4 (371)	10.9 (314)	51.4 (1322)	10.9 (315)	7.2 (208)	0.0 (0)	6.7 (192)	0.0 (1)
ABIS (Sweden)	8,327	52.3 (4,355)	0.0 (0)	39.7 (1.7)	3.4 (286)	3584 (548)	1.8 (153)	42.0 (3423)	2.1 (173)	9.3 (776)	0.0 (0)	28.8 (2,400)	0.0 (0)	7.9 (644)	1.9 (159)	4.8 (331)	17.9 (1,488)
BAMSE (Sweden)	3,181	49.7 (1,581)	0.0 (0)	39.8 (2.0)	0.0 (0)	3530 (560)	1.0 (31)	52.6 (1,672)	0.0 (0)	19.6 (620)	0.7 (23)	- (-)	- (-)	13.6 (431)	0.1 (2)	18.0 (564)	1.2 (39)
CHOP (Multiple)*	632	47.8 (302)	0.0 (0)	39.8 (1.2)	0.2 (1)	3298 (345)	0.0 (0)	57.9 (365)	0.3 (2)	- (-)	- (-)	40.9 (256)	0.9 (6)	18.9 (119)	0.2 (1)	- (-)	- (-)
COPSAC ₂₀₀₀ (Denmark)	272	48.9 (133)	0.0 (0)	39.9 (1.6)	0.0 (0)	3541 (545)	0.0 (0)	61.0 (166)	0.0 (0)	100.0 (272)	0.0 (0)	100.0 (272)	0.0 (0)	22.4 (61)	0.0 (0)	26.2 (71)	0.4 (1)
DNBC (Denmark)	80,633	50.9 (41,042)	0.0 (0)	39.6 (1.7)	0.1 (108)	3595 (553)	0.5 (386)	45.5 (34,033)	7.3 (5,915)	8.4 (6,471)	5.0 (4,004)	21.3 (16,307)	5.2 (4,219)	25.6 (20,471)	0.7 (584)	14.8 (11,239)	5.8 (4,713)
Eden (France)	876	53.4 (468)	0.0 (0)	39.3 (1.7)	0.0 (0)	3290 (494)	0.0 (0)	29.6 (206)	20.5 (180)	18.4 (161)	0.0 (0)	17.9 (157)	0.0 (0)	21.7 (173)	8.8 (77)	35.5 (274)	11.9 (104)
G21 (Portugal)	7,310	50.9 (3,723)	0.0 (0)	38.5 (1.9)	0.1 (8)	3155 (528)	0.0 (0)	57.8 (4,149)	1.9 (138)	5.4 (380)	4.3 (315)	- (-)	- (-)	21.7 (1,562)	1.6 (115)	17.2 (1170)	6.8 (498)
Gen R (Netherlands)	5,149	49.8 (2,566)	0.0 (0)	39.8 (1.9)	0.6 (31)	3433 (573)	0.1 (7)	58.8 (2,933)	3.1 (160)	15.7 (554)	31.3 (1,613)	59.9 (2,350)	23.8 (1,226)	21.9 (1,011)	10.5 (539)	13.0 (556)	16.7 (859)
GINIplus (Germany)	4,010	50.9 (2,043)	0.0 (0)	39.7 (1.4)	16.9 (676)	3469 (467)	4.2 (170)	- (-)	- (-)	14.2 (562)	1.0 (40)	53.7 (2,131)	1.1 (43)	14.0 (553)	1.4 (56)	30.8 (1,201)	2.8 (113)
HUMIS (Norway)	763	50.5 (324)	15.9 (121)	39.8 (2.1)	15.9 (121)	3574 (641)	15.9 (121)	45.8 (283)	19.0 (145)	14.3 (85)	21.9 (167)	45.2 (268)	22.3 (170)	7.2 (45)	17.8 (136)	5.6 (42)	1.7 (13)
INMA Asturias (Spain)	340	54.1 (184)	0.0 (0)	39.4 (1.6)	0.0 (0)	3254 (474)	0.0 (0)	62.4 (212)	0.0 (0)	14.4 (49)	0.0 (0)	21.8 (74)	0.0 (0)	27.1 (88)	4.4 (15)	56.6 (192)	0.3 (1)
INMA Gipuzkoa (Spain)	351	49.9 (175)	0.0 (0)	39.8 (1.5)	0.0 (0)	3294 (438)	0.9 (3)	56.7 (199)	0.0 (0)	13.7 (48)	0.0 (0)	29.3 (103)	0.0 (0)	21.4 (73)	2.8 (10)	47.1 (165)	0.3 (1)
INMA Menorca (Spain)	471	51.2 (241)	0.0 (0)	39.3 (1.8)	0.2 (1)	3209 (471)	3.0 (14)	41.8 (197)	0.0 (0)	12.4 (58)	0.6 (3)	51.7 (215)	11.7 (55)	35.3 (165)	0.6 (3)	48.3 (210)	7.6 (36)
INMA Sabadell (Spain)	534	52.4 (280)	0.0 (0)	39.8 (1.4)	0.0 (0)	3276 (423)	0.0 (0)	55.9 (295)	1.1 (6)	15.0 (70)	12.4 (66)	35.7 (168)	11.8 (63)	26.3 (138)	1.9 (10)	52.1 (275)	1.1 (6)
INMA Valencia (Spain)	460	50.9 (234)	0.0 (0)	39.6 (1.7)	0.0 (0)	3233 (493)	0.0 (0)	56.7 (261)	0.0 (0)	13.3 (61)	0.0 (0)	31.1 (143)	0.0 (0)	37.6 (173)	0.0 (0)	64.9 (298)	0.2 (1)

Cohort (country)	n	Sex		Gestational Age		Birth weight		Parity		Parental history of asthma		Parental history of atopy		Maternal smoke in pregnancy		Environmental Tobacco Smoke	
		boy %(n)	missing %(n)	mean (SD)	missing %(n)	mean (SD)	missing %(n)	firstborn %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)	yes %(n)	missing %(n)
KOALA (Netherlands)	2,222	50.7 (1,126)	0.0 (0)	39.5 (1.5)	0.4 (9)	3516 (506)	0.0 (1)	44.5 (980)	0.9 (21)	17.7 (386)	1.9 (43)	59.6 (1,307)	1.4 (30)	5.4 (119)	0.0 (0)	10.2 (227)	0.0 (1)
Lifeways (Ireland)	555	47.9 (266)	0.0 (0)	39.9 (1.9)	9.2 (51)	3526 (566)	0.9 (5)	41.9 (229)	1.6 (9)	16.9 (69)	26.3 (146)	- (-)	- (-)	17.6 (95)	2.5 (14)	36.3 (200)	0.7 (4)
LISA (Germany)	2,493	51.5 (1,284)	0.0 (0)	39.8 (1.2)	1.5 (37)	3476 (444)	0.0 (0)	53.0 (1,314)	0.6 (14)	11.5 (273)	4.7 (116)	56.2 (1,306)	6.8 (170)	15.3 (367)	3.6 (89)	27.2 (677)	0.1 (3)
LRC (United Kingdom)	5,948	52.0 (3,093)	0.0 (0)	39.2 (1.9)	2.7 (160)	3305 (578)	2.5 (151)	41.7 (2,415)	2.7 (163)	30.5 (1,495)	17.6 (1,049)	55.8 (2,801)	15.6 (926)	14.2 (726)	14.3 (852)	32.8 (1,841)	5.7 (339)
Lucki (Netherlands)	828	49.5 (410)	0.0 (0)	39.2 (1.8)	0.2 (2)	3404 (525)	0.2 (2)	50.8 (410)	2.5 (21)	21.7 (171)	5.0 (41)	65.9 (519)	5.0 (41)	10.6 (88)	0.0 (0)	7.6 (63)	0.0 (0)
PIAMA (Netherlands)	3,591	51.7 (1,855)	0.0 (1)	39.9 (1.6)	0.3 (11)	3520 (541)	0.5 (18)	49.9 (1,788)	0.1 (5)	13.1 (466)	0.9 (32)	50.0 (1,796)	0.0 (0)	16.8 (597)	0.8 (29)	24.2 (867)	0.1 (4)
SEATON (United Kingdom)	212	49.5 (105)	0.0 (0)	39.6 (1.6)	5.2 (11)	3521 (540)	5.7 (12)	38.3 (77)	5.2 (11)	25.9 (55)	0.0 (0)	67.5 (137)	4.2 (9)	17.5 (37)	0.0 (0)	19.0 (40)	0.9 (2)
STEPS Study (Finland)	832	52.0 (433)	0.0 (0)	39.8 (1.6)	1.3 (11)	3514 (511)	1.3 (11)	58.1 (483)	0.0 (0)	19.8 (131)	20.4 (170)	34.3 (230)	19.5 (162)	2.1 (13)	26.2 (218)	19.0 (151)	4.6 (38)
SWS (United Kingdom)	2,549	52.1 (1,329)	0.0 (0)	39.8 (1.8)	0.0 (0)	3443 (544)	1.0 (26)	53.2 (1,354)	0.1 (3)	36.9 (839)	10.8 (276)	67.1 (1,433)	16.2 (414)	14.4 (349)	4.6 (117)	35.8 (905)	0.9 (23)
WHISTLER (Netherlands)	645	47.9 (304)	1.7 (11)	39.5 (1.4)	2.9 (19)	3537 (496)	2.9 (19)	- (-)	- (-)	13.8 (81)	8.7 (56)	65.6 (356)	15.8 (102)	16.8 (105)	3.1 (20)	6.4 (41)	0.2 (1)

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Table C. (continued)

Cohort (country)	Maternal age		Maternal education				Maternal BMI		Breastfeeding		Breastfeeding duration in months	
	mean (SD)	missing %(n)	low %(n)	mid %(n)	high %(n)	missing %(n)	mean (SD)	missing %(n)	yes %(n)	missing %(n)	mean (SD)	missing %(n)
ABCD (Netherlands)	32.3 (4.2)	0.0 (0)	9.1 (262)	18.6 (535)	72.3 (2,080)	0.3 (10)	22.8 (3.7)	5.1 (148)	85.2 (2,459)	0.0 (1)	4.9 (3.7)	0.0 (1)
ABIS (Sweden)	29.9 (4.5)	0.1 (7)	6.2 (510)	58.3 (4,756)	35.5 (2,896)	2.0 (165)	23.7 (3.8)	21.1 (1,755)	96.2 (6,342)	20.8 (1,734)	7.2 (2.3)	21.1 (1,734)
BAMSE (Sweden)	30.8 (4.5)	0.0 (1)	32.1 (1,018)	24.7 (783)	43.1 (1,366)	0.4 (14)	- -	- -	97.2 (3,092)	0.0 (0)	8.7 (3.4)	2.8 (89)
CHOP (Multiple)*	31.2 (4.7)	0.2 (1)	17.9 (113)	50.6 (320)	31.5 (199)	0.0 (0)	23.4 (4.2)	3.3 (21)	33.4 (211)	0.0 (0)	- -	- -
COPSAC ₂₀₀₀ (Denmark)	30.2 (4.2)	0.0 (0)	38.8 (101)	46.9 (122)	14.2 (37)	4.4 (12)	- -	- -	99.3 (270)	0.0 (0)	9.0 (5.5)	0.0 (0)
DNBC (Denmark)	30.0 (4.3)	0.0 (0)	8.8 (6,748)	37.4 (28,606)	53.8 (41,111)	5.2 (4,168)	23.5 (4.2)	6.4 (5,147)	98.4 (63,170)	20.4 (16,457)	5.2 (1.5)	20.4 (16,457)
Eden (France)	30.3 (4.8)	0.0 (0)	22.7 (197)	17.3 (150)	60.0 (520)	1.0 (9)	23.4 (4.5)	0.8 (7)	72.0 (630)	0.1 (1)	- -	- -
G21 (Portugal)	29.3 (5.4)	0.0 (0)	46.4 (3,370)	27.3 (1,987)	26.3 (1,910)	0.6 (43)	23.9 (4.3)	7.8 (570)	93.1 (6,640)	2.4 (178)	10.3 (10.1)	27.9 (2,039)
Gen R (Netherlands)	31.5 (4.6)	0.0 (0)	4.9 (238)	39.1 (1,908)	56.1 (2,740)	5.1 (263)	24.5 (4.1)	10.7 (550)	92.5 (4,062)	14.7 (756)	5.1 (3.8)	36.0 (1,854)
GINplus (Germany)	31.2 (4.1)	0.0 (1)	15.1 (570)	39.9 (1,502)	45.0 (1,696)	6.0 (242)	22.7 (3.4)	37.4 (1,501)	87.1 (3,344)	4.3 (171)	4.3 (2.3)	4.5 (179)
HUMIS (Norway)	30.1 (4.5)	15.9 (121)	4.8 (31)	9.2 (59)	85.9 (550)	16.1 (123)	23.9 (4.1)	16.3 (124)	98.7 (610)	19.0 (145)	11.8 (5.3)	24.5 (187)
INMA Asturias (Spain)	33.3 (4.2)	0.0 (0)	14.1 (48)	44.1 (150)	41.8 (142)	0.0 (0)	23.7 (4.1)	0.0 (0)	76.1 (248)	4.1 (14)	5.1 (6.9)	4.1 (14)
INMA Gipuzkoa (Spain)	32.7 (3.2)	0.0 (0)	10.9 (38)	35.4 (124)	53.7 (188)	0.3 (1)	22.9 (3.5)	0.0 (0)	90.8 (306)	4.0 (14)	6.8 (4.7)	4.0 (14)
INMA Menorca (Spain)	30.0 (4.6)	3.0 (14)	58.5 (266)	28.1 (128)	13.4 (61)	3.4 (16)	22.8 (3.7)	3.6 (17)	82.4 (388)	0.0 (0)	1.1 (1.0)	0.0 (0)
INMA Sabadell (Spain)	31.8 (4.3)	0.2 (1)	22.9 (119)	44.1 (229)	32.9 (171)	2.8 (15)	23.8 (4.5)	2.4 (13)	93.6 (499)	0.2 (1)	6.3 (4.5)	0.2 (1)
INMA Valencia (Spain)	31.8 (4.2)	0.7 (3)	27.2 (125)	42.4 (195)	30.4 (140)	0.0 (0)	23.6 (4.2)	0.0 (0)	83.9 (386)	0.0 (0)	5.5 (4.5)	0.0 (0)

Cohort (country)	Maternal age		Maternal education				Maternal BMI		Breastfeeding		Breastfeeding duration in months	
	mean (SD)	missing %(n)	low %(n)	mid %(n)	high %(n)	missing %(n)	mean (SD)	missing %(n)	yes %(n)	missing %(n)	mean (SD)	missing %(n)
KOALA (Netherlands)	32.2 (3.8)	0.1 (2)	8.8 (196)	36.5 (811)	54.1 (1,189)	1.2 (26)	23.7 (3.9)	0.5 (10)	85.5 (1,899)	0 (0)	5.3 (4.3)	0.0 (0)
Lifeways (Ireland)	31.6 (5.3)	0.0 (0)	0.2 (1)	44.6 (244)	55.2 (302)	1.4 (8)	23.8 (3.9)	15.1 (84)	54.4 (298)	1.3 (7)	3.1 (3.7)	47.9 (266)
LISA (Germany)	31.4 (4.4)	0.1 (2)	7.6 (187)	38.0 (936)	54.4 (1,340)	1.2 (30)	22.6 (3.8)	2.2 (54)	94.4 (2,329)	1.1 (27)	4.8 (1.9)	1.1 (28)
LRC (United Kingdom)	28.9 (5.2)	(0.1) (4)	43.0 (1,130)	34.1 (898)	22.9 (602)	55.8 (3,318)	- -	- -	62.0 (3,224)	12.6 (751)	2.8 (3.0)	12.6 (751)
LucKi (Netherlands)	30.8 (4.2)	52.9 (438)	8.7 (41)	80.9 (382)	10.4 (49)	43.0 (356)	24.1 (4.4)	67.5 (559)	62.3 (514)	0.4 (3)	- -	- -
PIAMA (Netherlands)	30.5 (3.8)	0.5 (17)	22.3 (795)	42.1 (1,500)	35.6 (1,271)	0.7 (25)	22.8 (3.4)	9.3 (334)	82.6 (2,932)	1.1 (40)	3.5 (3.5)	1.1 (40)
SEATON (United Kingdom)	30.8 (4.3)	0.0 (0)	41.7 (75)	11.7 (21)	46.7 (84)	15.1 (32)	- -	- -	76.2 (157)	2.8 (6)	3.5 (3.8)	3.8 (8)
STEPS Study (Finland)	31.3 (4.4)	0.0 (0)	16.9 (138)	42.3 (345)	40.7 (332)	2.0 (17)	24.2 (4.7)	1.8 (15)	98.5 (657)	19.8 (165)	9.3 (4.8)	19.8 (165)
SWS (United Kingdom)	30.9 (3.8)	0.0 (0)	38.8 (986)	32.1 (816)	29.1 (740)	0.3 (7)	25.2 (4.7)	0.9 (24)	83.4 (2,042)	4.0 (102)	4.3 (5.1)	4.0 (102)
WHISTLER (Netherlands)	32.8 (3.5)	9.8 (63)	32.2 (180)	0.0 (0)	67.8 (379)	13.3 (86)	24.8 (4.1)	11.3 (73)	80.5 (503)	3.1 (20)	3.0 (2.9)	4.5 (29)

The numbers shown are based on the inclusion criteria for this study (participants with information on physical activity and asthma for at least one age group). Cohort-specific details on study population and covariables can be found in the reference of the specific cohort.

* CHOP study included participants in multiple countries: Belgium, Germany, Italy, Poland, and Spain.

Table D. Longitudinal analyses on physical activity, sedentary behaviour and current asthma between age 6 and 18 years – exclusion of wheeze and asthma at baseline

	n (n asthma cases)	n cohorts	aOR (95% CI) #
Questionnaire based			
<i>Physical activity (hours/day)</i>			
age 3-5 years	12972 (836)	10 a	1.00 (0.95 to 1.04)
<i>Sedentary behaviour (hours/day)</i>			
age 3-5 years	12595 (828)	9 b	1.04 (0.98 to 1.10)
Accelerometry			
<i>Total activity (counts/min)</i>			
age 3-5 years	732 (99)	2 c	1.00 (1.00 to 1.00)
<i>Sedentary activity</i>			
age 3-5 years	732 (99)	2 c	1.04 (0.89 to 1.21)
<i>MVPA</i>			
age 3-5 years	732 (99)	2 c	1.00 (0.64 to 1.57)

Generalized logistic mixed models on questionnaire based physical activity (PA) in hours per day, sedentary behaviour in hours per day, and accelerometry data at age 3-5 years; and current asthma at age 6-18 years. Subgroup analysis with exclusion of participants with wheeze or asthma at baseline.

adjusted odds ratios (aOR) indicate the increase in odds of current asthma between age 6 and 18 years for each hour per day of parent reported physical activity or sedentary behaviour at the age of 3-5 years; and time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry between age 3-5 years. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

95% CI: 95% confidence intervals.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: ABIS, G21, HUMIS, KOALA, Lifeways, LISA, Lucki, STEPS Study, SWS, Whistler

b: ABIS, G21, HUMIS, KOALA, Lifeways, LISA, Lucki, STEPS Study, SWS

c: KOALA, SWS

Table E. Longitudinal analyses on physical activity, sedentary behaviour and ISAAC based definition of current asthma between age 6 and 18 years

	n (n asthma cases)	n cohorts	aOR (95% CI) #
Questionnaire based			
<i>Physical activity (hours/day)</i>			
age 0-2 years	2024 (182)	2 a	0.92 (0.75 to 1.11)
age 3-5 years	15968 (1256)	14 b	1.02 (0.98 to 1.06)
<i>Sedentary behaviour (hours/day)</i>			
age 0-2 years	2379 (205)	3 c	1.00 (0.72 to 1.38)
age 3-5 years	16014 (1259)	13 d	1.03 (0.98 to 1.08)
Accelerometry			
<i>Total activity (counts/min)</i>			
age 3-5 years	775 (116)	2 e	1.00 (1.00 to 1.00)
<i>Sedentary activity</i>			
age 3-5 years	775 (116)	2 e	1.03 (0.89 to 1.19)
<i>MVPA</i>			
age 3-5 years	775 (116)	2 e	0.94 (0.62 to 1.43)

Generalized logistic mixed models on questionnaire based physical activity (PA) in hours per day, sedentary behaviour in hours per day, and accelerometry data at ages 0-2 years and 3-5 years; and ISAAC based definition of current asthma at age 6-18 years. ISAAC based current asthma is defined as (1) asthma ever and (2) dyspnea or wheeze in the last 12 months, or (3) regular use of asthma medication in the last 12 months.

adjusted odds ratios (aOR) indicate the increase in odds of (ISAAC based) current asthma between age 6 and 18 years for each hour per day of parent reported physical activity or sedentary behaviour in the age periods between age 0-2 or 3-5 years; and time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry between age 3-5 years.

95% CI: 95% confidence intervals.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: KOALA, STEPS Study

b: ABCD, ABIS, Generation R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, STEPS Study, SWS, Whistler

c: HUMIS, KOALA, STEPS Study

d: ABCD, ABIS, Generation R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, STEPS Study, SWS

e: KOALA, SWS

Table F. Longitudinal analyses on physical activity, sedentary behaviour and MeDALL based definition of current asthma between age 6 and 18 years

	n (n asthma cases)	n cohorts	aOR (95% CI) #
Questionnaire based			
<i>Physical activity (hours/day)</i>			
age 0-2 years	1879 (171)	1 a	0.96 (0.79 to 1.18)
age 3-5 years	15069 (1194)	12 b	1.01 (0.97 to 1.05)
<i>Sedentary behaviour (hours/day)</i>			
age 0-2 years	2264 (200)	2 c	1.00 (0.71 to 1.39)
age 3-5 years	15225 (1200)	12 b	1.01 (0.95 to 1.06)
Accelerometry			
<i>Total activity (counts/min)</i>			
age 3-5 years	766 (71)	2 d	1.00 (1.00 to 1.00)
<i>Sedentary activity</i>			
age 3-5 years	766 (71)	2 d	0.96 (0.79 to 1.17)
<i>MVPA</i>			
age 3-5 years	766 (71)	2 d	1.14 (0.67 to 1.94)

Generalized logistic mixed models on questionnaire based physical activity (PA) in hours per day, sedentary behaviour in hours per day, and accelerometry data at ages 0-2 years and 3-5 years; and MeDALL based definition of current asthma at age 6-18 years. MeDALL based current asthma is defined as presence of 2 out of 3 criteria (1) asthma ever, (2) wheeze in the last 12 months, (3) use of asthma medication in the last 12 months.

adjusted odds ratios (aOR) indicate the increase in odds of (MeDALL based) current asthma between age 6 and 18 years for each hour per day of parent reported physical activity or sedentary behaviour in the age periods between age 0-2 or 3-5 years; and time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry between age 3-5 years.

95% CI: 95% confidence intervals.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: KOALA

b: ABCD, ABIS, Generation R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, SWS

c: HUMIS, KOALA

d: KOALA, SWS

Table G. Longitudinal analyses on physical activity and sedentary behaviour in tertiles and current asthma at age 6-18 years (multivariable)

Physical activity in tertiles	n (n cases asthma)	n cohort		Low tertile aOR (95% CI)	Mid tertile aOR (95% CI)	High tertile aOR (95% CI)
age 0-2 years	64658 (6086)	3	a	ref	0.69 (0.59 to 0.82)	0.80 (0.68 to 0.95)
age 3-5 years	24912 (2681)	17	b	ref	1.03 (0.93 to 1.14)	1.10 (0.99 to 1.22)
Sedentary behaviour in tertiles						
age 0-2 years	2380 (329)	3	c	ref	0.99 (0.77 to 1.27)	1.28 (0.88 to 1.87)
age 3-5 years	22449 (2515)	15	d	ref	0.94 (0.85 to 1.05)	0.99 (0.89 to 1.11)

Generalized logistic mixed models on physical activity in tertiles and sedentary behaviour in tertiles at ages 0-2 years and 3-5 years; and current asthma at age 6-18 years. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

aOR adjusted Odds Ratio; 95% CI 95% confidence interval.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: DNBC, KOALA, STEPS Study

b: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LucKi, PIAMA, STEPS Study, SWS, WHISTLER

c: HUMIS, KOALA, STEPS Study

d: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LucKi, PIAMA, STEPS Study, SWS

Table H. Longitudinal analyses on physical activity and sedentary behaviour in tertiles and current asthma at age 6-18 years (univariable)

Physical activity in tertiles	n (n cases asthma)	n cohort		Low tertile OR (95% CI)	Mid tertile OR (95% CI)	High tertile OR (95% CI)
age 0-2 years	68482 (6451)	4	a	ref	0.71 (0.56 to 0.89)	0.82 (0.65 to 1.04)
age 3-5 years	30109 (3739)	18	b	ref	1.06 (0.97 to 1.16)	1.17 (1.07 to 1.28)
Sedentary behaviour in tertiles						
age 0-2 years	2467 (338)	4	c	ref	1.07 (0.83 to 1.37)	1.36 (0.95 to 1.95)
age 3-5 years	27661 (3629)	17	d	ref	1.03 (0.95 to 1.12)	1.11 (1.00 to 1.22)

Generalized logistic mixed models on physical activity in tertiles and sedentary behaviour in tertiles at ages 0-2 years and 3-5 years; and current asthma at age 6-18 years. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

OR Odds Ratio; 95% CI 95% confidence interval

Univariable analyses.

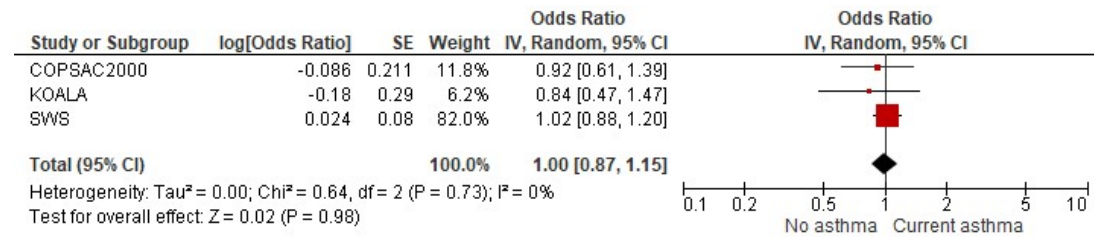
Included cohorts:

a: DNBC, KOALA, LRC, STEPS Study

b: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LRC, LucKi, PIAMA, STEPS Study, SWS, WHISTLER

c: HUMIS, KOALA, LRC, STEPS Study

d: ABCD, ABIS, COPSAC₂₀₀₀, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LRC, LucKi, PIAMA, STEPS Study, SWS

Figure A. Meta-analysis of longitudinal data on sedentary behaviour measured with accelerometry and current asthma at age 6-18 years

Meta-analysis of longitudinal data on sedentary behaviour measured with accelerometry and current asthma at age 6-18 years. Meta-analysis of cohort-specific logistic regression analyses. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

95% CI 95% confidence interval

Multivariable analyses adjusted for sex, maternal education level, maternal BMI (maternal BMI available for KOALA and SWS, not available for COPSAC₂₀₀₀).

Table 1. Longitudinal age-specific analyses on physical activity in hours/day and sedentary behaviour in hours/day and current asthma (multivariable)

Age at exposure	Age at outcome	Current asthma			
Physical activity in hours/day	n (n cases asthma)	n cohort	aOR (95% CI)		
age 0-2 years	age 3-5 years	2735 (295)	3	a	1.01 (0.85 to 1.20)
age 0-2 years	age 6-8 years	1918 (218)	2	b	0.89 (0.74 to 1.07)
age 3-5 years	age 6-8 years	21155 (1875)	15	c	1.01 (0.97 to 1.04)
age 6-8 years	age 9-14 years	58324 (2731)	6	d	1.00 (0.97 to 1.03)
age 9-14 years	age 15-18 years	3311 (201)	3	e	0.90 (0.77 to 1.05)
Sedentary behaviour in hours/day					
age 0-2 years	age 3-5 years	3287 (316)	4	f	1.19 (0.89 to 1.58)
age 0-2 years	age 6-8 years	2269 (263)	3	g	0.93 (0.69 to 1.25)
age 3-5 years	age 6-8 years	20856 (1852)	14	h	1.02 (0.98 to 1.06)
age 6-8 years	age 9-14 years	59337 (2827)	7	i	1.02 (0.98 to 1.05)
age 9-14 years	age 15-18 years	5482 (436)	4	j	1.01 (0.92 to 1.11)

Generalized logistic mixed models on physical activity in hours/day and sedentary in hours/day and subsequent current asthma for each age group. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

aOR adjusted Odds Ratio; 95% CI 95% confidence interval.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: EDEN, KOALA, STEPS Study

b: KOALA, STEPS Study

c: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, STEPS Study, SWS, Whistler

d: DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA

e: GINIplus, INMA Menorca, LISA

f: EDEN, HUMIS, KOALA, STEPS Study

g: HUMIS, KOALA, STEPS Study

h: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, STEPS Study, SWS

i: CHOP, DNBC, GenR, GINIplus, INMA Menorca, KOALA, LISA

j: GINIplus, INMA Menorca, LISA, PIAMA

Table J. Longitudinal age-specific analyses on physical activity in hours/day and sedentary behaviour in hours/day and current asthma (univariable)

Age at exposure	Age at outcome	Current asthma			
Physical activity in hours/day		n (n cases asthma)	n cohort	OR (95% CI)	
age 0-2 years	age 3-5 years	2792 (299)	4 a	1.05 (0.88 to 1.25)	
age 0-2 years	age 6-8 years	1965 (223)	3 b	0.92 (0.75 to 1.13)	
age 3-5 years	age 6-8 years	25463 (2585)	16 c	1.02 (0.99 to 1.05)	
age 6-8 years	age 9-14 years	65888 (3741)	7 d	1.00 (0.98 to 1.03)	
age 9-14 years	age 15-18 years	6934 (828)	5 e	1.02 (0.92 to 1.13)	
Sedentary behaviour in hours/day					
age 0-2 years	age 3-5 years	3440 (325)	5 f	1.30 (0.99 to 1.71)	
age 0-2 years	age 6-8 years	2354 (268)	4 g	1.08 (0.83 to 1.42)	
age 3-5 years	age 6-8 years	25116 (2554)	15 h	1.05 (1.01 to 1.09)	
age 6-8 years	age 9-14 years	66965 (3825)	8 i	1.03 (0.99 to 1.07)	
age 9-14 years	age 15-18 years	9311 (1078)	6 j	1.01 (0.97 to 1.05)	

Generalized logistic mixed models on physical activity in hours/day and sedentary in hours/day and subsequent current asthma for each age group. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

OR Odds Ratio; 95% CI 95% confidence interval

Univariable analyses.

Included cohorts:

a: EDEN, KOALA, LRC, STEPS Study

b: KOALA, LRC, STEPS Study

c: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, LRC, LucKi, STEPS Study, SWS, WHISTLER

d: DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, LRC

e: BAMSE, GINIplus, INMA Menorca, LISA, LRC

f: EDEN, HUMIS, KOALA, LRC, STEPS Study

g: HUMIS, KOALA, LRC, STEPS Study

h: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, LRC, LucKi, STEPS Study, SWS

i: CHOP, DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, LRC

j: BAMSE, GINIplus, INMA Menorca, LISA, LRC, PIAMA

Table K. Longitudinal age-specific analyses on physical activity in tertiles and current asthma (multivariable)

Age at exposure	Age at outcome	Current asthma				
		n (n cases asthma)	n cohort	Low tertile aOR (95% CI)	Mid tertile aOR (95% CI)	High tertile aOR (95% CI)
Physical activity in tertiles						
age 0-2 years	age 3-5 years	2735 (295)	3 a	ref	1.05 (0.78 to 1.40)	1.17 (0.84 to 1.64)
age 0-2 years	age 6-8 years	42788 (4948)	3 b	ref	0.64 (0.54 to 0.77)	0.75 (0.62 to 0.91)
age 3-5 years	age 6-8 years	24061 (2212)	16 c	ref	1.01 (0.90 to 1.13)	1.07 (0.95 to 1.20)
age 6-8 years	age 9-14 years	61102 (3057)	8 d	ref	0.93 (0.86 to 1.02)	1.03 (0.94 to 1.13)
age 9-14 years	age 15-18 years	4929 (406)	4 e	ref	0.87 (0.69 to 1.11)	0.83 (0.64 to 1.09)
Sedentary behaviour in tertiles						
age 0-2 years	age 3-5 years	3287 (316)	4 f	ref	1.18 (0.91 to 1.53)	1.42 (0.98 to 2.06)
age 0-2 years	age 6-8 years	2269 (263)	3 g	ref	1.00 (0.76 to 1.32)	1.09 (0.71 to 1.67)
age 3-5 years	age 6-8 years	21675 (2121)	14 h	ref	0.91 (0.82 to 1.02)	0.97 (0.86 to 1.10)
age 6-8 years	age 9-14 years	61667 (3112)	8 i	ref	0.98 (0.90 to 1.08)	1.06 (0.97 to 1.16)
age 9-14 years	age 15-18 years	5482 (436)	4 j	ref	0.94 (0.74 to 1.20)	0.97 (0.76 to 1.24)

Generalized logistic mixed models on physical activity in tertiles and sedentary in tertiles and subsequent current asthma for each age group. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

aOR adjusted Odds Ratio; 95% CI 95% confidence interval.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: EDEN, KOALA, STEPS Study

b: DNBC, KOALA, STEPS Study

c: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, Lucki, PIAMA, STEPS Study, SWS, WHISTLER

d: CHOP, DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, PIAMA

e: GINIplus, INMA Menorca, LISA, PIAMA

f: EDEN, HUMIS, KOALA, STEPS Study

g: HUMIS, KOALA, STEPS Study

h: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lucki, PIAMA, STEPS Study, SWS

i: CHOP, DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, PIAMA

j: GINIplus, INMA Menorca, LISA, PIAMA

Table L Longitudinal age-specific analyses on physical activity in tertiles and current asthma (univariable)

Age at exposure	Age at outcome	n (n cases asthma)	Current asthma				
			n cohort	Low tertile OR (95% CI)	Mid tertile OR (95% CI)	High tertile OR (95% CI)	
Physical activity in tertiles							
age 0-2 years	age 3-5 years	2792 (299)	4 a	ref	1.05 (0.81 to 1.37)	1.20 (0.97 to 1.76)	
age 0-2 years	age 6-8 years	45159 (5254)	4 b	ref	0.65 (0.51 to 0.82)	0.76 (0.60 to 0.97)	
age 3-5 years	age 6-8 years	28630 (2958)	17 c	ref	1.01 (0.91 to 1.12)	1.13 (1.02 to 1.25)	
age 6-8 years	age 9-14 years	68858 (4093)	9 d	ref	0.94 (0.87 to 1.02)	1.05 (0.97 to 1.14)	
age 9-14 years	age 15-18 years	8818 (1078)	7 e	ref	1.00 (0.85 to 1.17)	1.09 (0.93 to 1.28)	
Sedentary behaviour in tertiles							
age 0-2 years	age 3-5 years	3440 (325)	5 f	ref	1.25 (0.98 to 1.61)	1.62 (1.13 to 2.31)	
age 0-2 years	age 6-8 years	2354 (268)	4 g	ref	1.07 (0.80 to 1.43)	1.26 (0.81 to 1.97)	
age 3-5 years	age 6-8 years	26276 (2862)	16 h	ref	1.00 (0.91 to 1.09)	1.10 (0.99 to 1.22)	
age 6-8 years	age 9-14 years	69504 (4138)	10 i	ref	0.97 (0.89 to 1.06)	1.10 (1.01 to 1.20)	
age 9-14 years	age 15-18 years	9311 (1078)	6 j	ref	1.12 (0.96 to 1.32)	1.00 (0.86 to 1.18)	

Generalized logistic mixed models on physical activity in tertiles and sedentary in tertiles and subsequent current asthma for each age group. Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

OR Odds Ratio; 95% CI 95% confidence interval.

Univariable analyses.

Included cohorts:

a: EDEN, KOALA, LRC, STEPS Study

b: DNBC, KOALA, LRC, STEPS Study

c: ABCD, ABIS, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, LRC, LucKi, PIAMA, STEPS Study, SWS, WHISTLER

d: CHOP, DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, LRC, PIAMA

e: BAMSE, GINIplus, INMA Menorca, LISA, LRC, PIAMA, SEATON

f: EDEN, HUMIS, KOALA, LRC, STEPS Study

g: HUMIS, KOALA, LRC, STEPS Study

h: ABCD, ABIS, COPSAC₂₀₀₀, G21, Gen R, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LRC, LucKi, PIAMA, STEPS Study, SWS

i: CHOP, COPSAC₂₀₀₀, DNBC, Gen R, GINIplus, INMA Menorca, KOALA, LISA, LRC, PIAMA

j: BAMSE, GINIplus, INMA Menorca, LISA, LRC, PIAMA

Table M. Longitudinal analyses on physical activity in hours/day and sedentary behaviour in hours/day and current asthma between age 6 and 18 years – interaction with BMI at baseline and physical activity and sedentary behaviour (multivariable)

	n (n asthma cases)	n cohorts	aOR (95% CI) #
Age 0-2 years			
Physical activity (hours/day)	1852 (257)	2 a	0.89 (0.76 to 1.05)
BMI at baseline			1.14 (0.91 to 1.43)
BMI*PA			1.01 (0.87 to 1.19)
Sedentary behaviour (hours/day)	2185 (301)	3 b	1.05 (0.79 to 1.38)
BMI at baseline			1.06 (0.89 to 1.27)
BMI*Sed			1.21 (0.94 to 1.54)
Age 3-5 years			
Physical activity (hours/day)	14715 (1468)	14 c	1.03 (0.99 to 1.09)
BMI at baseline			1.10 (0.99 to 1.22)
BMI*PA			1.01 (0.97 to 1.05)
Sedentary behaviour (hours/day)	14755 (1474)	13 d	1.05 (1.00 to 1.10)
BMI at baseline			1.16 (1.07 to 1.27)
BMI*Sed			0.99 (0.96 to 1.02)

Generalized logistic mixed models on questionnaire based physical activity (PA) in hours per day and sedentary behaviour in hours per day at ages 0-2 years and 3-5 years; and current asthma at age 6-18 years.

Adjusted odds ratios (aOR) indicate the increase in odds of current asthma between age 6 and 18 years for physical activity and sedentary behaviour, but also for BMI at baseline, and the interaction terms BMI*PA and BMI*Sed, which reflect the interaction of BMI at baseline (i.e. at age 0-2 years or 3-5 years) and physical activity (PA) or sedentary behaviour (Sed). Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition.

95% CI: 95% confidence intervals

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: KOALA, STEPS Study

b: HUMIS, KOALA, STEPS Study

c: ABCD, G21, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LucKi, STEPS Study, SWS, Whistler

d: ABCD, G21, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LucKi, STEPS Study, SWS

Table N. Longitudinal analyses on physical activity in hours/day and sedentary behaviour in hours/day and current asthma between age 6 and 18 years – interaction with BMI at baseline and physical activity and sedentary behaviour (univariable)

Age at exposure	n (n asthma cases)	n cohorts	OR (95% CI) #
Age 0-2 years			
Physical activity (hours/day)	1882 (261)	2 a	0.89 (0.76 to 1.05)
BMI at baseline			1.14 (0.91 to 1.43)
BMI*PA			1.01 (0.87 to 1.19)
Sedentary behaviour (hours/day)	2216 (305)	3 b	1.05 (0.79 to 1.38)
BMI at baseline			1.06 (0.89 to 1.27)
BMI*Sed			1.21 (0.94 to 1.54)
Age 3-5 years			
Physical activity (hours/day)	15566 (1546)	14 c	1.03 (0.99 to 1.09)
BMI at baseline			1.10 (0.99 to 1.22)
BMI*PA			1.01 (0.97 to 1.05)
Sedentary behaviour (hours/day)	15621 (1553)	13 d	1.05 (1.00 to 1.10)
BMI at baseline			1.16 (1.07 to 1.27)
BMI*Sed			0.99 (0.96 to 1.02)

Generalized logistic mixed models on questionnaire based physical activity (PA) in hours per day and sedentary behaviour in hours per day at ages 0-2 years and 3-5 years; and current asthma at age 6-18 years.

Odds ratios (OR) indicate the increase in odds of current asthma between age 6 and 18 years for physical activity and sedentary behaviour, but also for BMI at baseline, and the interaction terms BMI*PA and BMI*Sed, which reflect the interaction of BMI at baseline (i.e. at age 0-2 years or 3-5 years) and physical activity (PA) or sedentary behaviour (Sed). Current asthma is defined as physician diagnosed asthma, ISAAC based current asthma definition or MeDALL based current asthma definition. 95% CI: 95% confidence intervals

Univariable analyses.

Included cohorts:

a: KOALA, STEPS Study

b: HUMIS, KOALA, STEPS Study

c: ABCD, G21, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LucKi, STEPS Study, SWS, Whistler

d: ABCD, G21, HUMIS, INMA Asturias, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, Lifeways, LISA, LucKi, STEPS Study, SWS

Table O. Longitudinal age-specific analyses on physical activity in hours/day and sedentary behaviour in hours/day and lung function

Age at exposure	Age at outcome	FEV ₁				FEV ₁ /FVC			
		n	n cohort	B (95% CI)	#	n	n cohort	B (95% CI)	#
Physical activity in hours/day									
age 0-2 years	age 3-5 years	733	1	a	0.19 (-0.40 to 0.78)	738	1	a	-0.38 (-0.82 to 0.08)
age 0-2 years	age 6-8 years	487	1	b	0.09 (-0.02 to 0.20)	488	1	b	-0.01 (-0.12 to 0.09)
age 3-5 years	age 6-8 years	4008	8	c	-0.01 (-0.03 to 0.02)	3967	7	h	-0.01 (-0.04 to 0.01)
age 6-8 years	age 9-14 years	3716	4	d	-0.02 (-0.05 to 0.01)	3672	4	d	-0.03 (-0.06 to 0.00)
age 9-14 years	age 15-18 years	2052	3	e	-0.02 (-0.06 to 0.02)	2052	3	e	-0.03 (-0.07 to 0.01)
Sedentary behaviour in hours/day									
age 0-2 years	age 3-5 years	715	1	b	-0.20 (-1.16 to 0.76)	720	1	b	-0.03 (-0.76 to 0.69)
age 0-2 years	age 6-8 years	507	1	b	0.04 (-0.16 to 0.23)	508	1	b	-0.06 (-0.24 to 0.12)
age 3-5 years	age 6-8 years	3959	7	f	-0.02 (-0.04 to 0.01)	3919	6	i	-0.02 (-0.04 to 0.01)
age 6-8 years	age 9-14 years	4156	4	d	0.03 (0.00 to 0.06)	4113	4	d	0.01 (-0.02 to 0.04)
age 9-14 years	age 15-18 years	3013	4	g	0.01 (-0.03 to 0.05)	3014	4	g	0.04 (0.00 to 0.07)

Generalized linear mixed models on physical activity in hours/day, sedentary behaviour in hours/day, and lung function.

FEV₁, forced expiratory volume in 1 second (in z-score); FVC: forced vital capacity; B Beta; 95% CI 95% confidence interval.

Beta (B) indicates the increase of FEV₁ z-score in SDS at age at outcome for each hour per day of parent reported physical activity or sedentary behaviour at age at exposure.

95% CI: 95% confidence intervals.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI

Included cohorts:

a: EDEN

b: KOALA

c: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, SWS, WHISTLER

d: Gen R, GINIplus, INMA Menorca, LISA

e: GINIplus, INMA Menorca, LISA

f: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, SWS

g: GINIplus, INMA Menorca, LISA, PIAMA

h: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, SWS, WHISTLER

i: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, SWS

Table P. Longitudinal age-specific analyses on physical activity in hours/day and sedentary behaviour in hours/day and lung function – exclusion of wheeze and asthma at baseline

Age at exposure	Age at outcome	FEV ₁				FEV ₁ /FVC			
		n	n cohort	B (95% CI)	#	n	n cohort	B (95% CI)	#
Physical activity in hours/day									
age 0-2 years	age 3-5 years	618	1	a	0.07 (-0.57 to 0.71)	623	1	a	-0.43 (-0.93 to 0.07)
age 0-2 years	age 6-8 years	412	1	b	0.09 (-0.03 to 0.21)	413	1	b	-0.05 (-0.15 to 0.06)
age 3-5 years	age 6-8 years	3177	8	c	0.00 (-0.02 to 0.03)	3144	7	h	-0.01 (-0.04 to 0.01)
age 6-8 years	age 9-14 years	3014	4	d	-0.02 (-0.04 to 0.01)	2971	4	d	-0.01 (-0.04 to 0.02)
age 9-14 years	age 15-18 years	1809	3	e	-0.03 (-0.07 to 0.01)	1809	3	e	-0.03 (-0.07 to 0.01)
Sedentary behaviour in hours/day									
age 0-2 years	age 3-5 years	602	1	b	-0.10 (-1.12 to 0.93)	607	1	b	0.02 (-0.78 to 0.83)
age 0-2 years	age 6-8 years	426	1	b	0.07 (-0.13 to 0.27)	427	1	b	-0.07 (-0.25 to 0.12)
age 3-5 years	age 6-8 years	3127	7	f	-0.02 (-0.05 to 0.01)	3095	6	i	-0.02 (-0.05 to 0.01)
age 6-8 years	age 9-14 years	3373	4	d	0.03 (0.00 to 0.06)	3331	4	d	0.01 (-0.02 to 0.04)
age 9-14 years	age 15-18 years	2626	4	g	0.01 (-0.03 to 0.04)	2627	4	g	0.03 (-0.00 to 0.07)

Generalized linear mixed models on physical activity in hours/day, sedentary behaviour in hours/day, and lung function.

Subgroup analysis with exclusion of participants with wheeze or asthma at baseline.

FEV₁ forced expiratory volume in 1 second (in z-score); FVC: forced vital capacity; B Beta; 95% CI 95% confidence interval.

Beta (B) indicates the increase of FEV₁ z-score in SDS at age at outcome for each hour per day of parent reported physical activity or sedentary behaviour at age at exposure.

95% CI: 95% confidence intervals.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI

Included cohorts:

a: EDEN

b: KOALA

c: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, SWS, WHISTLER

d: Gen R, GINIplus, INMA Menorca, LISA

e: GINIplus, INMA Menorca, LISA

f: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, LISA, SWS

g: GINIplus, INMA Menorca, LISA, PIAMA

h: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, SWS, WHISTLER

i: G21, INMA Gipuzkoa, INMA Sabadell, INMA Valencia, KOALA, SWS

Table Q. Longitudinal age-specific analyses on physical activity measured with accelerometry and lung function

<u>Age at exposure</u>	<u>Age at outcome</u>	<u>FEV₁</u>				<u>FEV₁/FVC</u>			
<u>Accelerometry in counts/min</u>		<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>	<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>		
age 3-5 years	age 6-8 years	361	2	a	0.00 (-0.00 to 0.00)	359	2	a	0.00 (-0.00 to 0.00)
<u>Sedentary level (hours/day)</u>		<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>	<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>		
age 3-5 years	age 6-8 years	361	2	a	-0.13 (-0.20 to -0.06)	359	2	a	0.01 (-0.05 to 0.08)
<u>MVPA (hours/day)</u>		<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>	<u>n</u>	<u>n cohort</u>	<u>B (95% CI) #</u>		
age 3-5 years	age 6-8 years	361	2	a	0.27 (0.07 to 0.46)	359	2	a	-0.06 (-0.25 to 0.14)

Generalized linear mixed models on accelerometry data in counts per minute (counts/min), time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry between age 3-5 years, and lung function. Age specific analyses: no data available at other age groups (0-2, 6-8, 9-14, 15-18 years). FEV₁ forced expiratory volume in 1 second (in z-score); FVC: forced vital capacity; B Beta; 95% CI 95% confidence interval. # Beta (B) indicates the increase of FEV₁ z-score in SDS at age at outcome for each hour per day of measured time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry at age at exposure. Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:
a: KOALA, SWS

Table R. Longitudinal age-specific analyses on physical activity measured with accelerometry and lung function – exclusion of wheeze and asthma at baseline

Age at exposure	Age at outcome	FEV ₁				FEV ₁ /FVC			
		n	n cohort	B (95% CI)	#	n	n cohort	B (95% CI)	#
Accelerometry in counts/min									
age 3-5 years	age 6-8 years	296	2	a	0.00 (-0.00 to 0.00)	259	2	a	-0.00 (-0.00 to 0.00)
Sedentary level (hours/day)									
age 3-5 years	age 6-8 years	296	2	a	-0.09 (-0.17 to -0.02)	295	2	a	0.04 (-0.03 to 0.11)
MVPA (hours/day)									
age 3-5 years	age 6-8 years	296	2	a	0.18 (-0.02 to 0.39)	295	2	a	-0.09 (-0.30 to 0.11)

Generalized linear mixed models on accelerometry data in counts per minute (counts/min), time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry between age 3-5 years, and lung function. Age specific analyses: no data available at other age groups (0-2, 6-8, 9-14, 15-18 years). Subgroup analysis with exclusion of participants with wheeze or asthma at baseline.

FEV₁ forced expiratory volume in 1 second (in z-score); FVC: forced vital capacity; B Beta; 95% CI 95% confidence interval.

Beta (B) indicates the increase of FEV₁ z-score in SDS at age at outcome for each hour per day of measured time in sedentary activity or moderate to vigorous physical activity (MVPA) recorded by accelerometry at age at exposure.

Multivariable analyses adjusted for sex, maternal education level, maternal BMI.

Included cohorts:

a: KOALA, SWS