

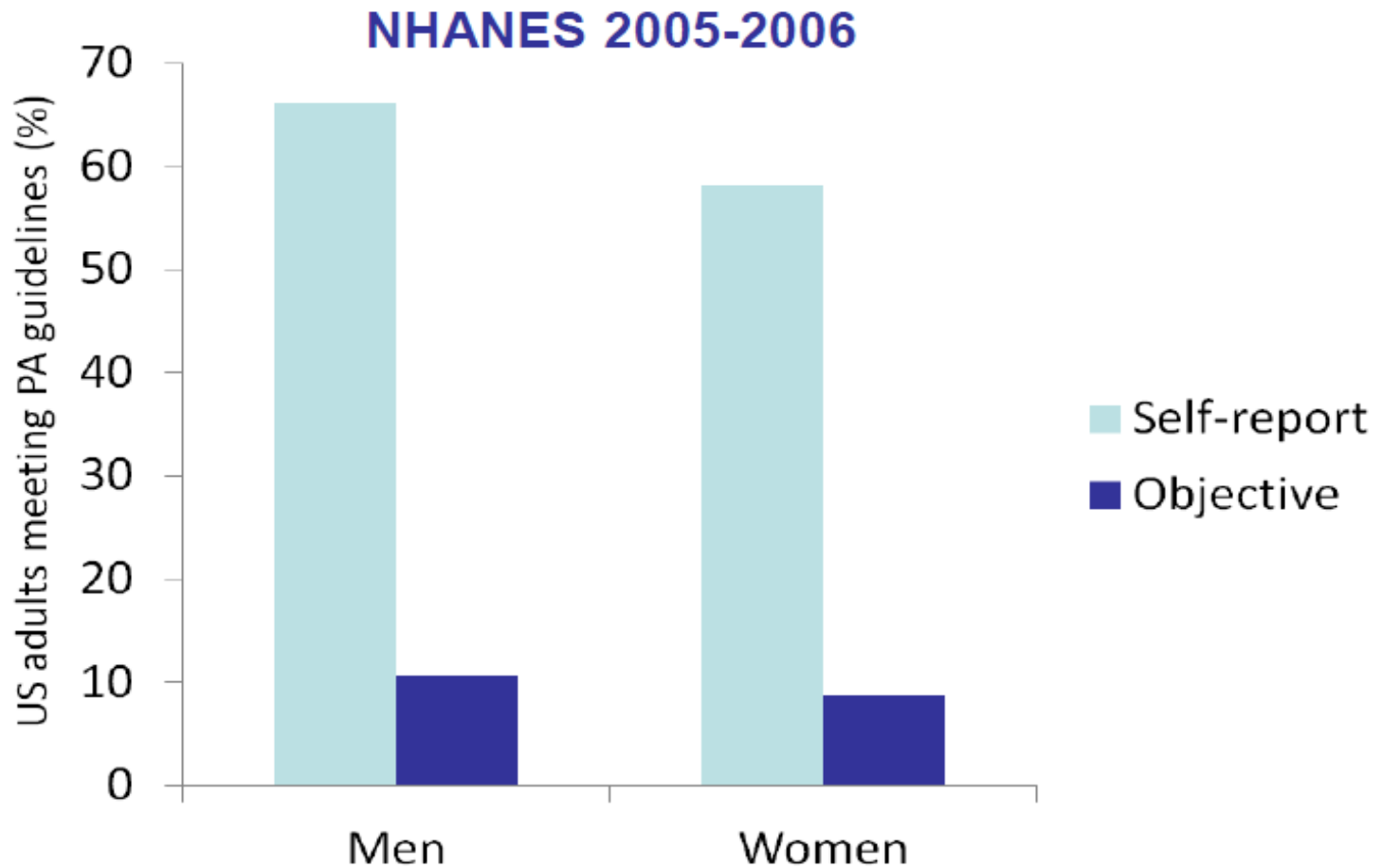
# Öka nivåer av fysisk aktivitet på samhällsnivå, hur gör vi det?

Daniel Berglind, PhD

Department of Public Health Sciences, Karolinska Institutet  
Centre for Epidemiology and Community Medicine (CES),  
Stockholm County's Health Care District (SLSO)



## Fysisk aktivitet bör mätas objektivt



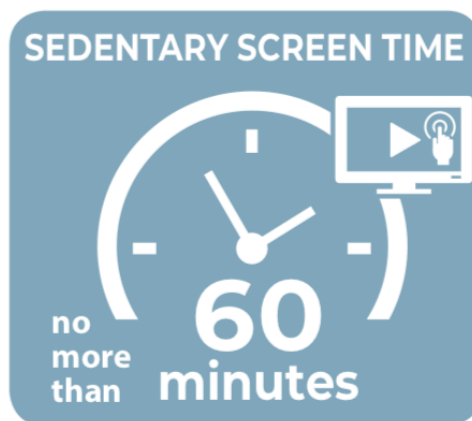
# Rekommendationer för fysisk aktivitet för barn i förskoleåldern

## children 3–4 years of age should:

Spend at least 180 minutes in a variety of types of physical activities at any intensity, of which at least 60 minutes is moderate- to vigorous-intensity physical activity, spread throughout the day; more is better.

Not be restrained for more than 1 hour at a time (e.g., prams/ strollers) or sit for extended periods of time. **Sedentary screen time should be no more than 1 hour; less is better.** When sedentary, engaging in reading and storytelling with a caregiver is encouraged.

Have 10–13h of good quality sleep, which may include a nap, with regular sleep and wake-up times.



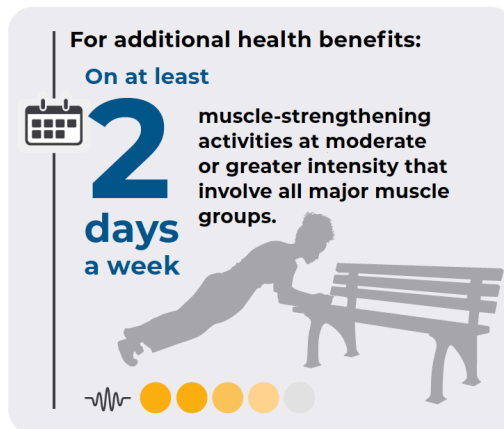
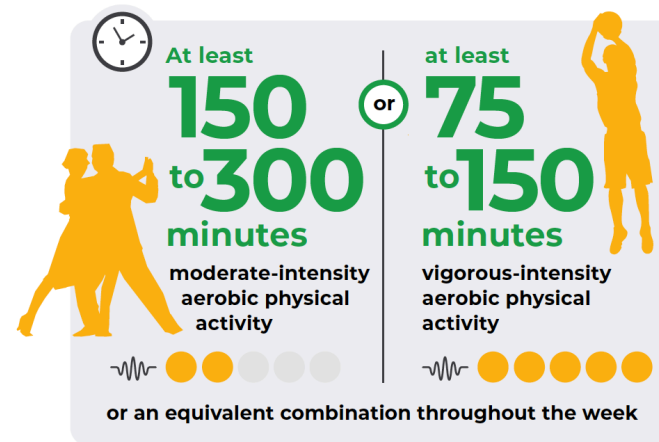
# Rekommendationer för fysisk aktivitet för vuxna

- > All adults should undertake regular physical activity.

*Strong recommendation, moderate certainty evidence*

- > Adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.

*Strong recommendation, moderate certainty evidence*

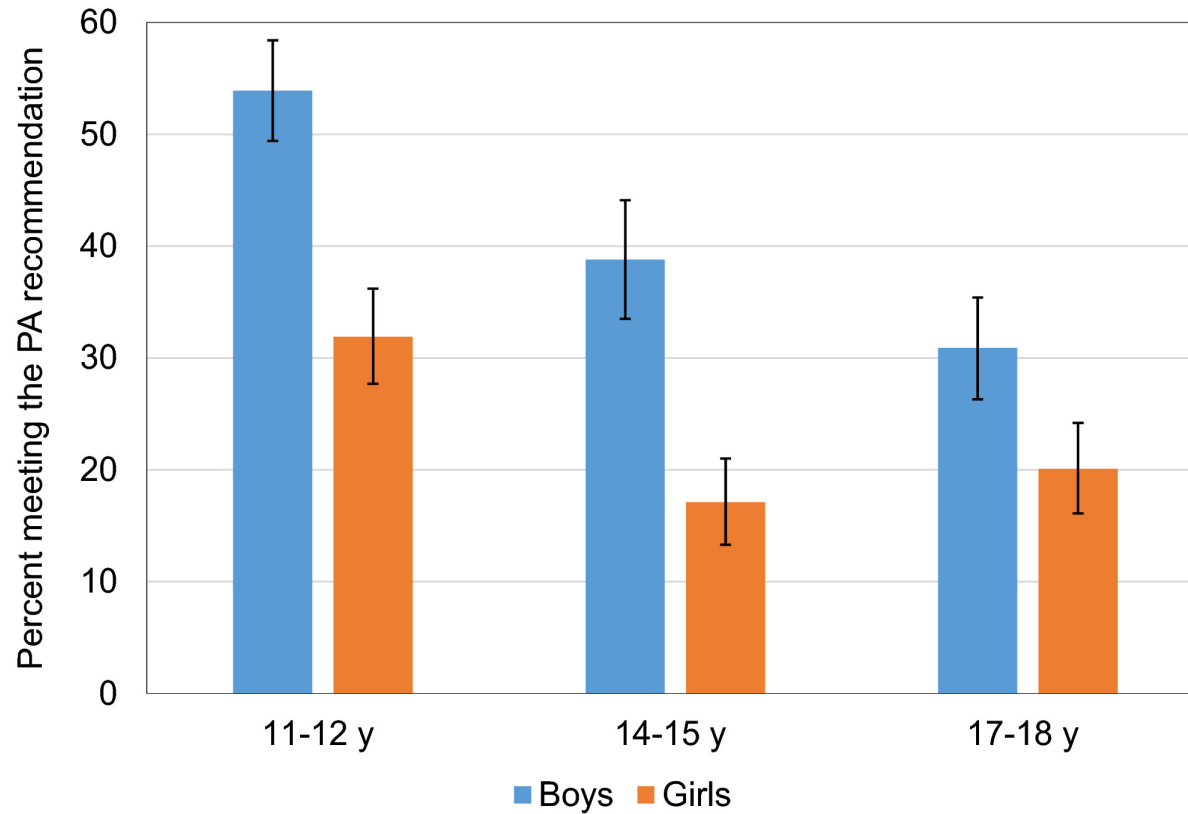


- > Adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.

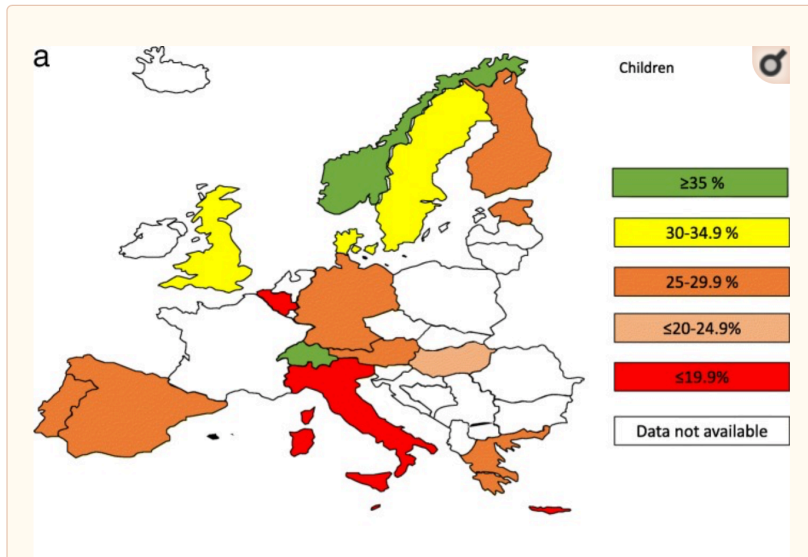
*Strong recommendation, moderate certainty evidence*



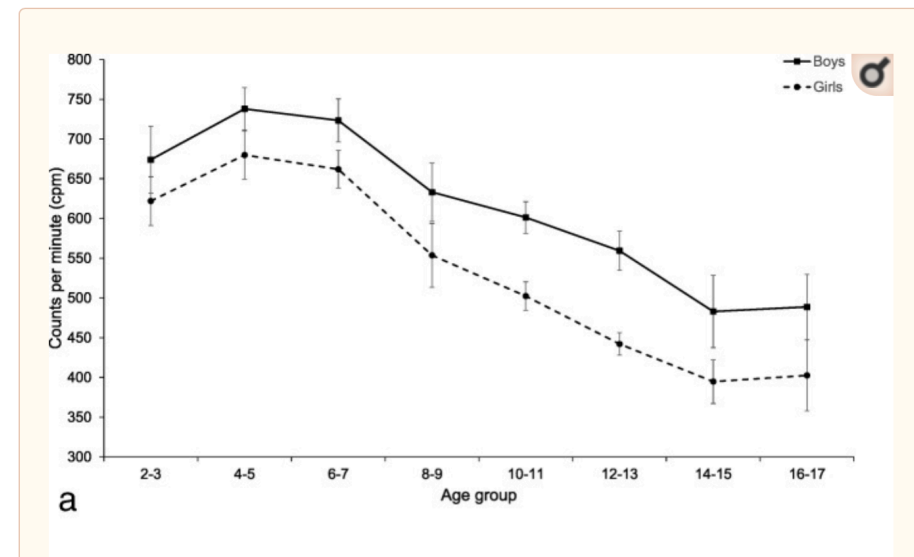
## Hur aktiva är svenska ungdomar?



# Hur aktiva är barn i Europa?



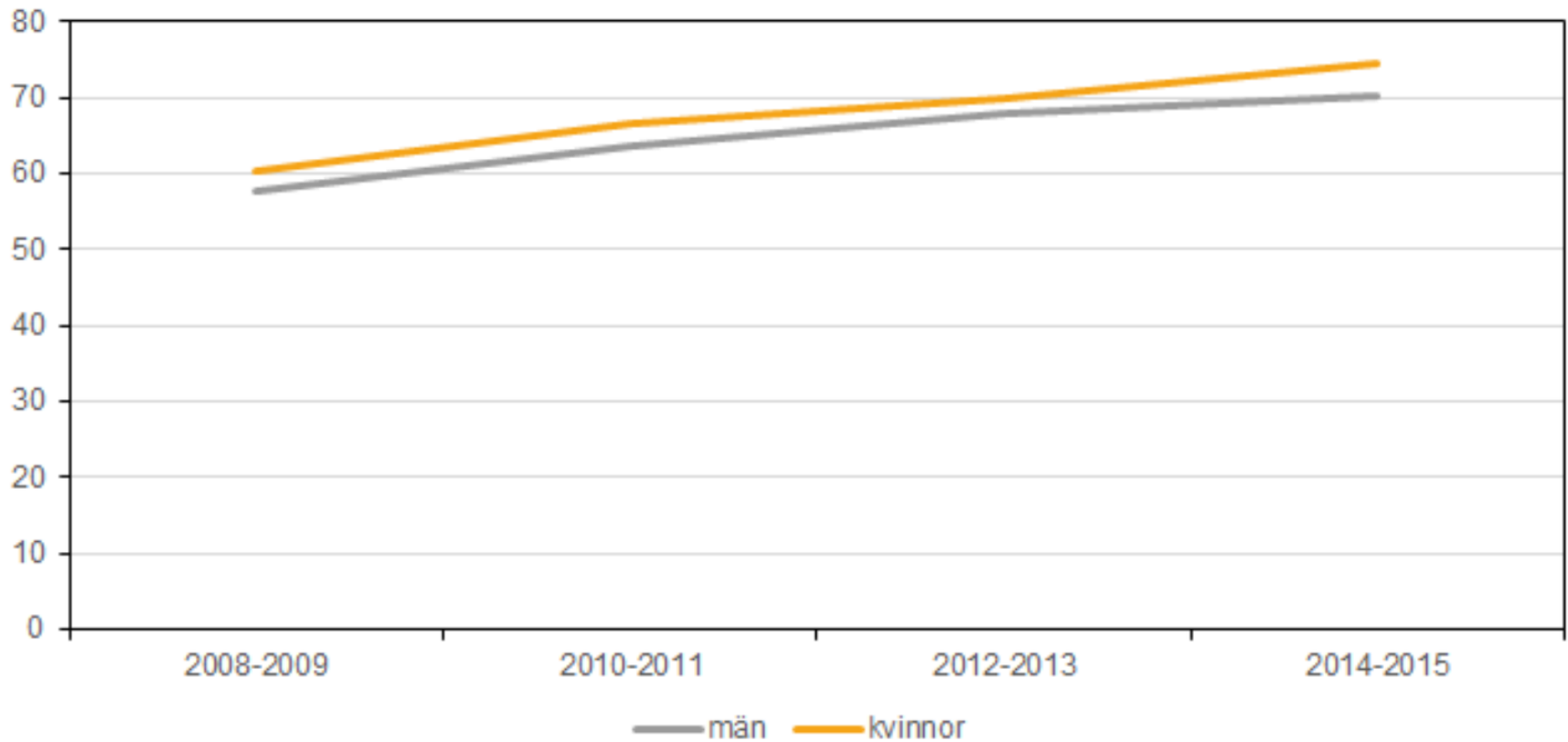
Andel barn som uppnår gällande rekommendationer för fysisk aktivitet

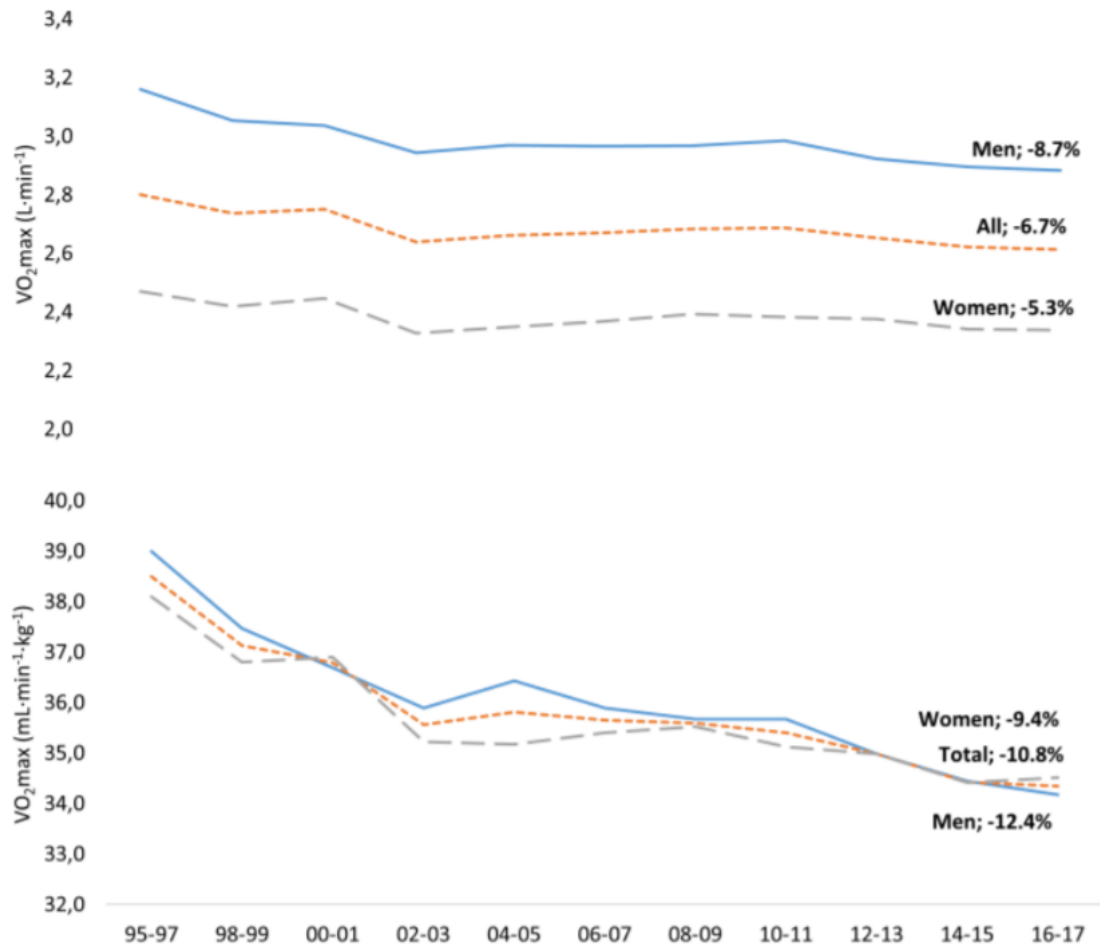


Nivåer av fysisk aktivitet i olika åldrar

## Träningstrend i Sverige?

Andel av befolkningen som idrottat mer än 20 gånger under den senaste 12-månadersperioden






**Fig. 1** Change in standardized mean of absolute (L·min<sup>-1</sup>, top) and relative (ml·min<sup>-1</sup>·kg<sup>-1</sup>, bottom)  $VO_2\max$  from 1995 to 2017 in the total study sample and in relation to sex



# Temporal Trends in the Cardiorespiratory Fitness of 2,525,827 Adults Between 1967 and 2016: A Systematic Review

Authors

Authors and affiliations

Nicholas R. Lamoureux, John S. Fitzgerald, Kevin I. Norton, Todd Sabato, Mark S. Tremblay, Grant R. Tomkinson 

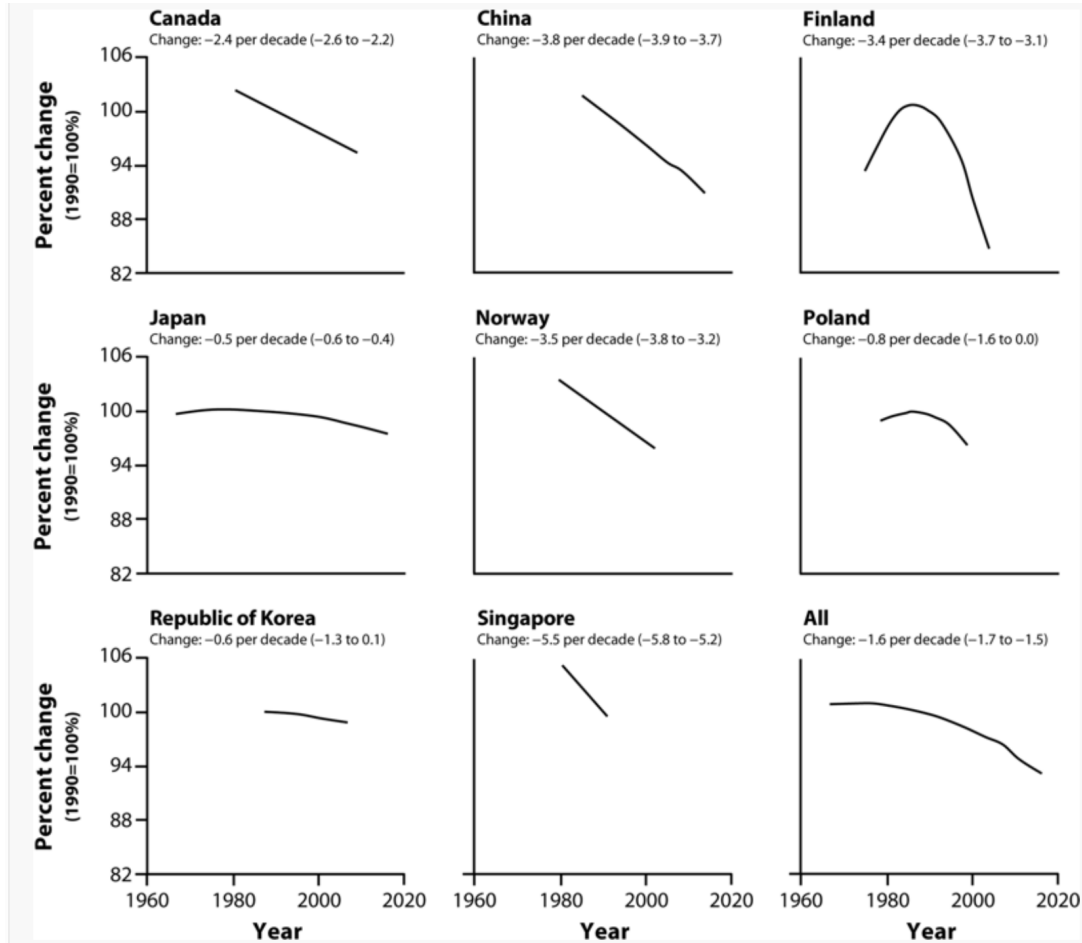


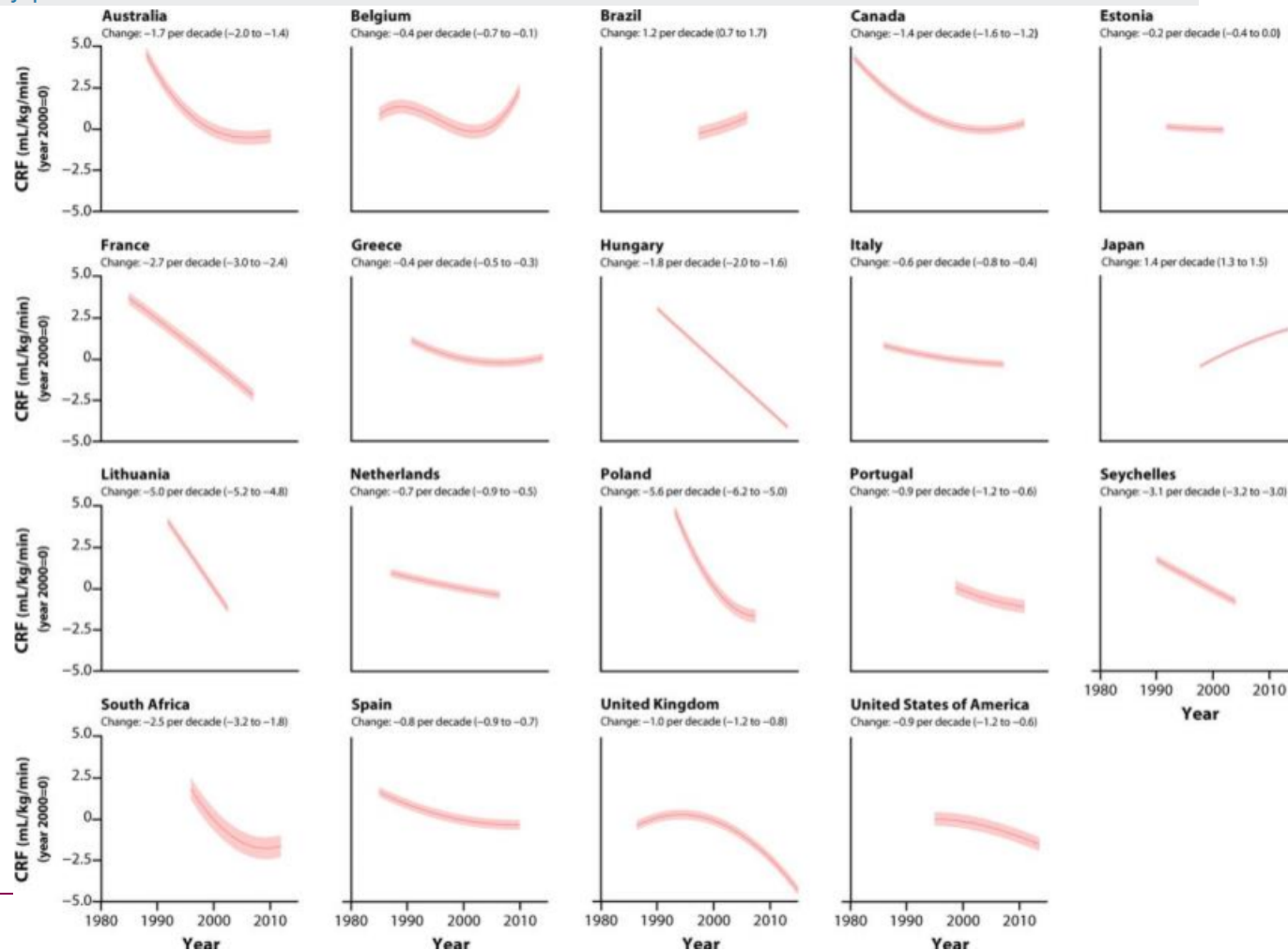
Fig. 2

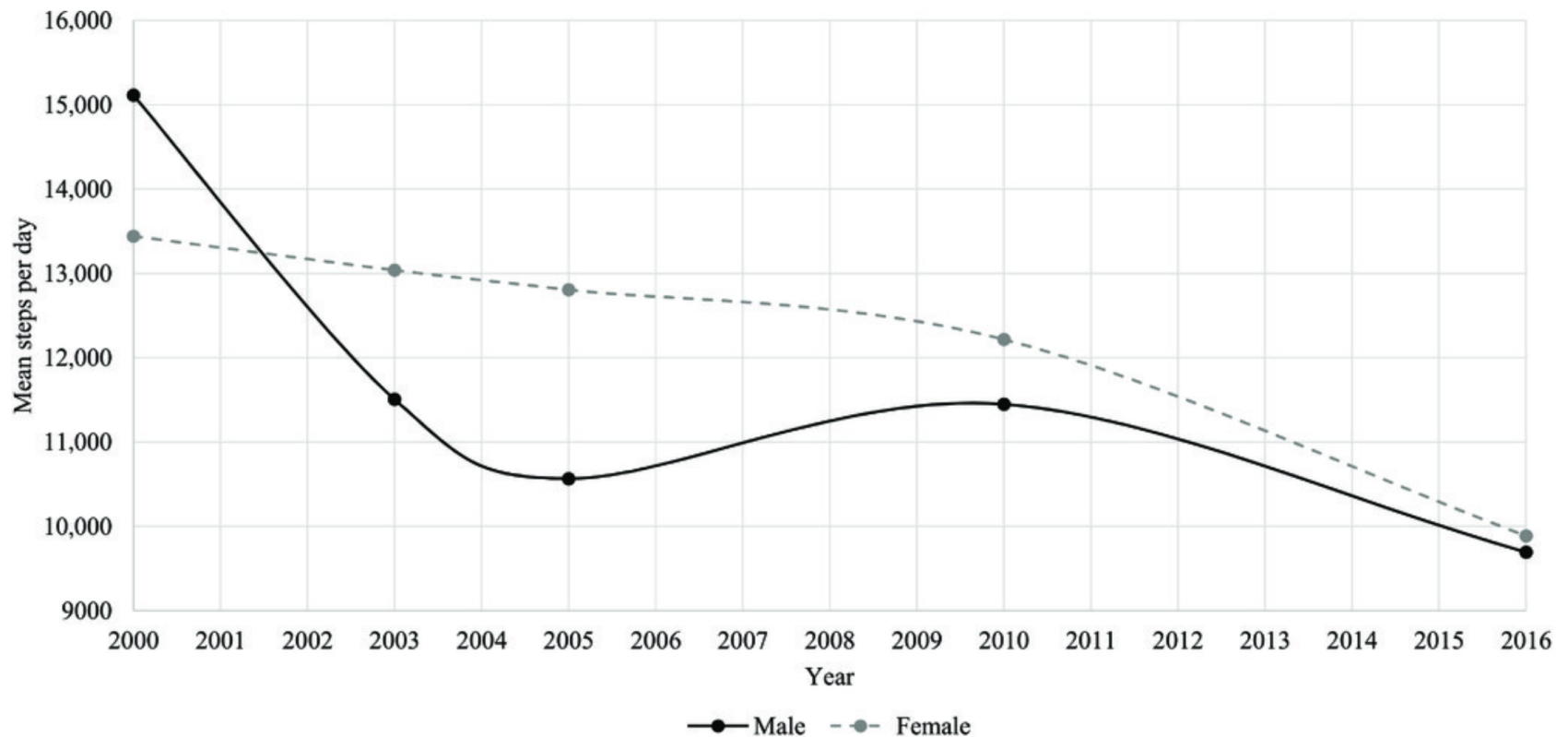
National temporal trends in mean cardiorespiratory fitness (CRF) between 1967 and 2016. Data are standardized to the year 1990 = 100%, with higher values (> 100%) indicating better CRF and negative values (< 100%) indicating poorer CRF. The solid lines represent the national changes in mean CRF, with upward sloping lines indicating increases over time and downward sloping lines indicating declines over time. Mean (95% CI) percent changes (per

# Temporal trends in the cardiorespiratory fitness of children and adolescents representing 19 high-income and upper middle-income countries between 1981 and 2014.



Grant R Tomkinson, Justin J. Lang, Mark Stephen Tremblay · Published in British journal of sports medicine 2019 · DOI: 10.1136/bjsports-2017-097982





⬇ Download Figure

⬇ Download figure as PowerPoint slide

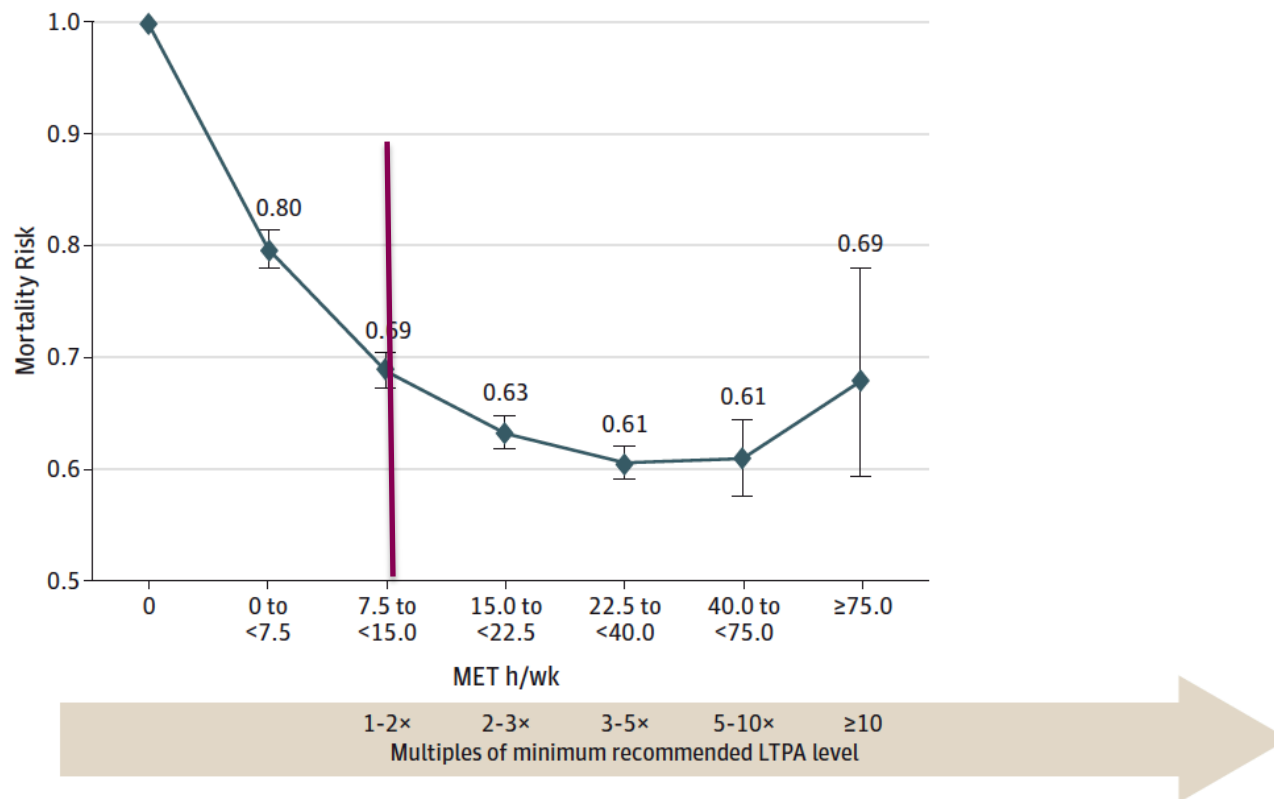
**Figure 1**

—Mean steps per day at time 1 (2000), time 2 (2003), time 3 (2005), time 4 (2010), and time 5 (2016) among males (black circles) and females (gray circles), respectively.

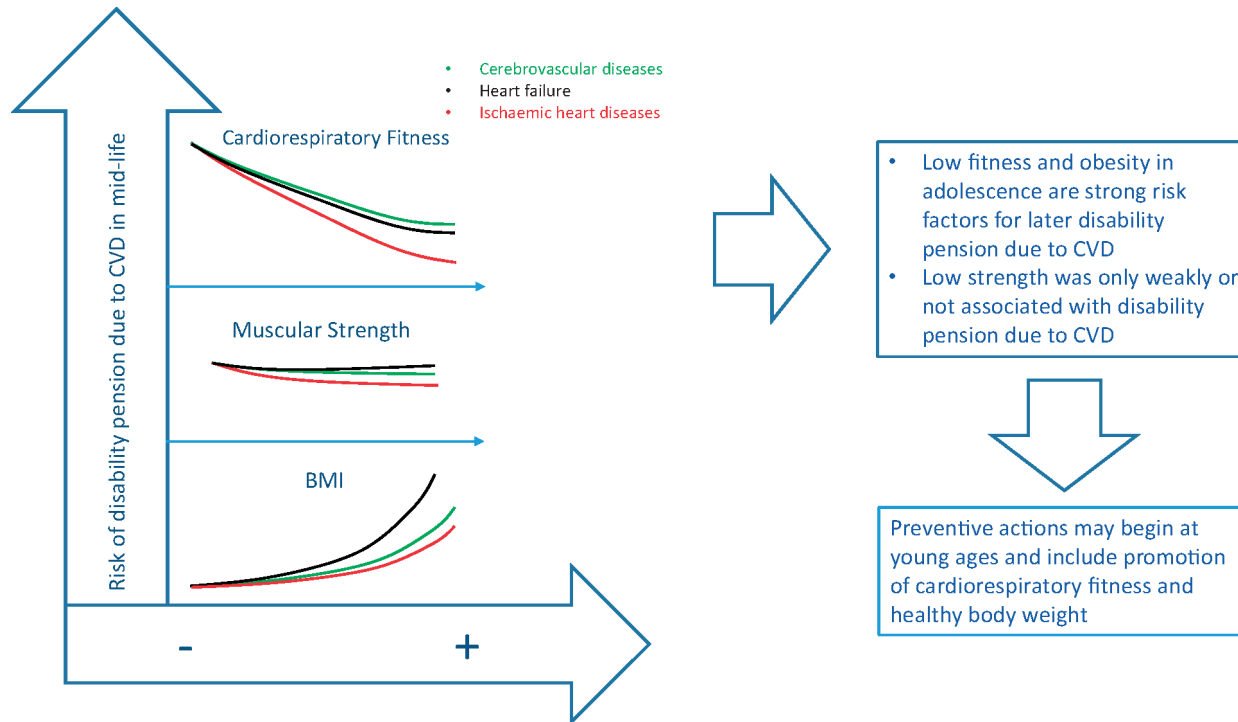
Citation: *Journal of Physical Activity and Health* 15, 1; 10.1123/jpah.2017-0146

## Vilken mängd fysisk aktivitet ger hälsofördelar?

Figure. Hazard Ratios (HRs) and 95% CIs for Leisure Time Moderate- to Vigorous-Intensity Physical Activity and Mortality

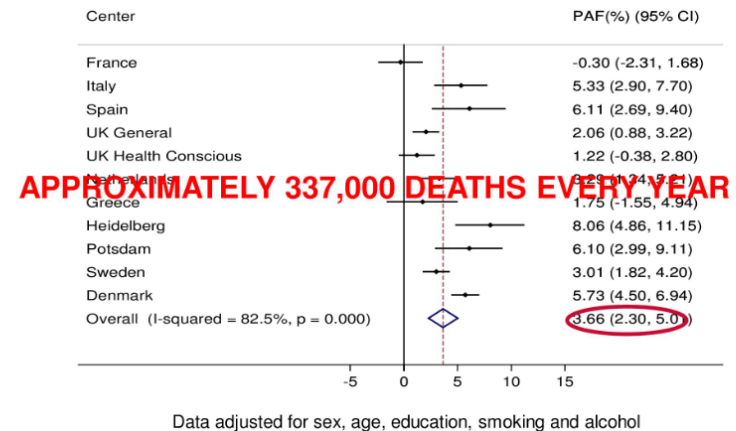
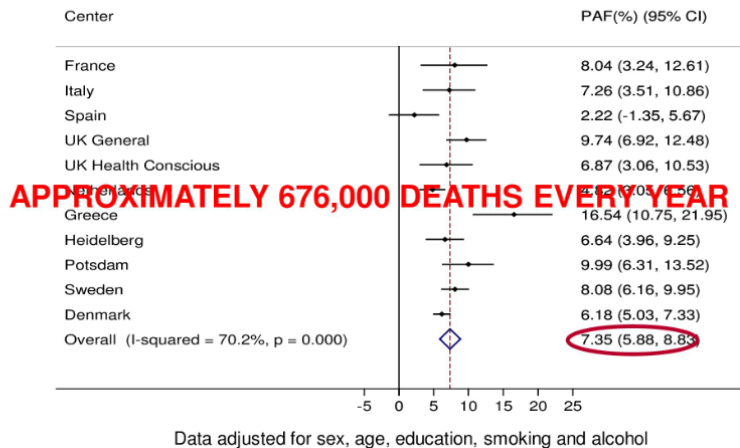


# Bättre kondition vid mönstring är kopplat till minskad risk för hjärt- och kärl-sjukdom senare i livet



## Proportion of deaths averted if inactivity was removed

## Proportion of deaths averted if obesity (BMI>30) was removed




inactive and moderately active groups. Physical inactivity may theoretically be responsible for twice as many total deaths as high BMI ( $\geq 30$ ) in this population, similar to the number of deaths averted if abdominal adiposity were eliminated.

# Fysiskt aktiva barn blir ofta fysiskt aktiva vuxna

[Obes Facts](#). 2009;2(3):187-95. doi: 10.1159/000222244. Epub 2009 Jun 12.

## Tracking of physical activity from childhood to adulthood: a review.

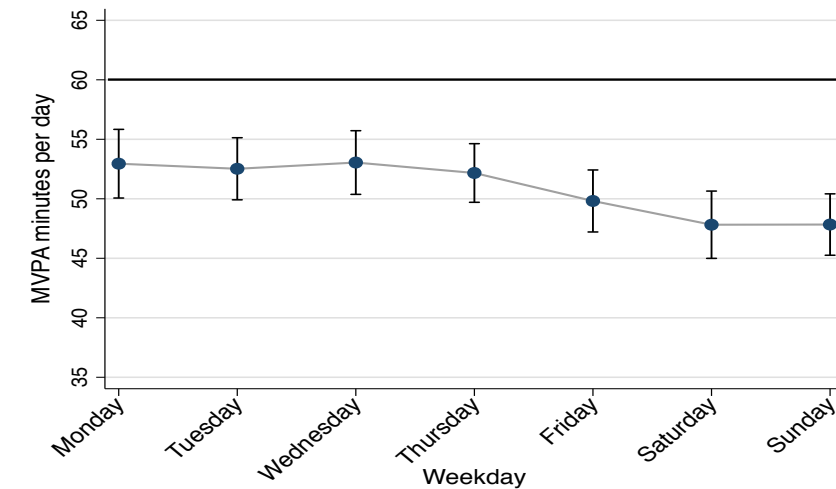
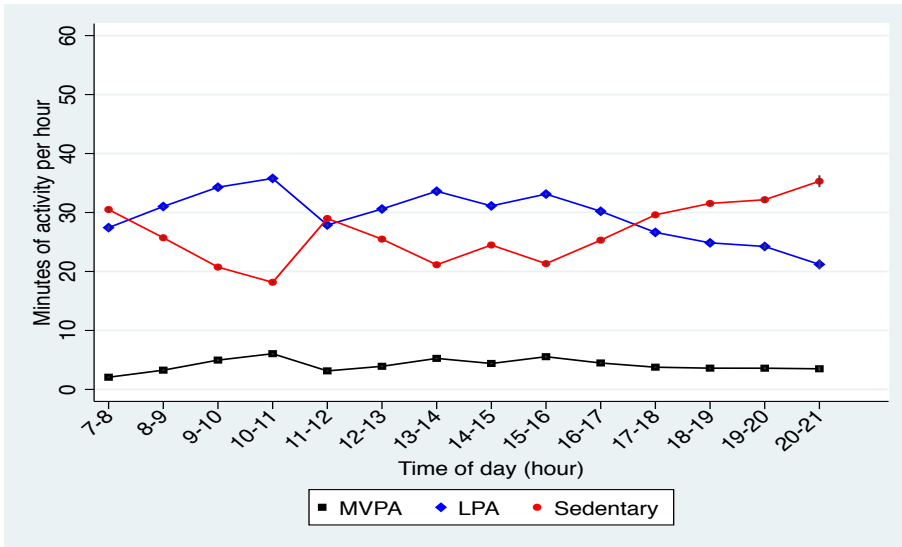
[Telama R](#)<sup>1</sup>.

 Author information

### Abstract

The aim of the article was to review studies on the tracking of physical activity in all phases of life from childhood to late adulthood. The majority of the studies have been published since 2000. The follow-up time in most studies was short, the median being 9 years. In men, the stability of physical activity was significant but low or moderate during all life phases and also in longterm follow-ups. In women, the tracking was lower and in many cases non-significant. Among both sexes, stability seems to be lower in early childhood than in adolescence or in adulthood and lower in transitional phases, such as from childhood to adolescence or from adolescence to adulthood, than in adulthood. However, the differences in the stability of physical activity between age groups and between different phases of life were small. The number of tracking studies utilising objective methods to measure physical activity was so small that systematic differences in stability between self-report and objective methods could not be determined. A factor which caused differences in tracking results was the adjustment of correlations for measurement error and other error variance. Adjusted coefficients were clearly higher than unadjusted ones. However, adjustment was done only in very few studies. If the different methods used for estimating habitual physical activity and the failure to control for important covariates in studies of tracking are taken into account, physical activity appears to track reasonably well also in the longer term, for example from adolescence to adulthood. The results of the tracking studies support the idea that the enhancement of physical activity in children and adolescents is of great importance for the promotion of public health.

# Hur får vi barn mer aktiva: vart börjar vi?



- Barn är mer aktiva på förskolan jämfört med tid med förälder



# Miljön påverkar hur aktiva vi är

*Number of associations obtained from different studies*

Perceived BE measures	PA domain (number of studies)	Number of associations obtained from different studies							
		1	2	3	4	5	6	7	8
<b>Accessibility</b> (number of destinations, public transit availability)	Overall PA (n=1)	S, 0,77 <sup>23</sup> N=800							
	Transport PA (n=1)	S, 0,91 <sup>28</sup> N=565	S, 0,91 <sup>25</sup> N=565	S, 0,91 <sup>25</sup> N=565	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427
	Leisure time PA (n=3)	S, 0,91 <sup>28</sup> N=9993	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427	S, 0,73 <sup>45</sup> N=1158			
<b>Aesthetics</b> (pleasantness and positive neighborhood features)	Overall PA (n=1)	S, 0,77 <sup>23</sup> N=800							
	Transport PA (n=2)	S, 0,82 <sup>44</sup> N=1142	S, 0,82 <sup>44</sup> N=1420	S, 0,86 <sup>39</sup> N=1427					
	Leisure time PA (n=2)	S, 0,82 <sup>44</sup> N=1420	S, 0,73 <sup>45</sup> N=1158	S, 0,86 <sup>39</sup> N=1427					
<b>Safety/unsafety</b> (neighborhood safety, traffic and danger of walking and cycling, fear of crime)	Overall PA (n=3)	S, 0,86 <sup>34</sup> N=1510	S, 0,82 <sup>47</sup> N=485	S, 0,77 <sup>31</sup> N=800					
	Transport PA (n=2)	S, 0,86 <sup>39</sup> N=1427	S, 0,82 <sup>44</sup> N=1142	S, 0,82 <sup>44</sup> N=1142	S, 0,82 <sup>47</sup> N=485				
	Leisure time PA (n=3)	S, 0,82 <sup>46</sup> N=18900	S, 0,86 <sup>39</sup> N=1427	S, 0,73 <sup>45</sup> N=1158	S, 0,82 <sup>47</sup> N=485				
<b>Convenience</b> (use of public transport, walking and cycling routes)	Overall PA (n=1)	S, 0,77 <sup>23</sup> N=800							
	Transport PA (n=1)	S, 0,82 <sup>44</sup> N=1142	S, 0,82 <sup>44</sup> N=1142	S, 0,82 <sup>44</sup> N=1142					
	Leisure time PA								
<b>Barriers</b> (barriers to walking and cycling, hilly streets)	Overall PA (n=1)	S, 0,86 <sup>34</sup> N=750							
	Transport PA (n=1)	S, 0,86 <sup>39</sup> N=1427							
	Leisure time PA (n=2)	S, 0,86 <sup>34</sup> N=750	S, 0,86 <sup>39</sup> N=1427	S, 0,86 <sup>39</sup> N=1427					
<b>Street network characteristics</b> (street connectivity, pedestrian crossings)	Overall PA								
	Transport PA (n=1)	S, 0,91 <sup>28</sup> N=565	S, 0,86 <sup>39</sup> N=1427						
	Leisure time PA (n=1)	S, 0,86 <sup>39</sup> N=1427							
<b>Other</b> (active school yards and playgrounds, residential density, visibility, change in infrastructure)	Overall PA (n=2)	O, 0,82 <sup>30</sup> N=736	S, 0,86 <sup>11</sup> N=1510	S, 0,86 <sup>11</sup> N=1510	S, 0,82 <sup>30</sup> N=736	O, 0,82 <sup>30</sup> N=736			
	Transport PA (n=1)	S, 0,91 <sup>28</sup> N=565							
	Leisure time PA (n=1)	S, 0,82 <sup>30</sup> N=736							

Statistically significant positive association  
 Null association  
 Statistically significant negative association

# Förskolans struktur är kopplat till hur mkt barnen rör på sig

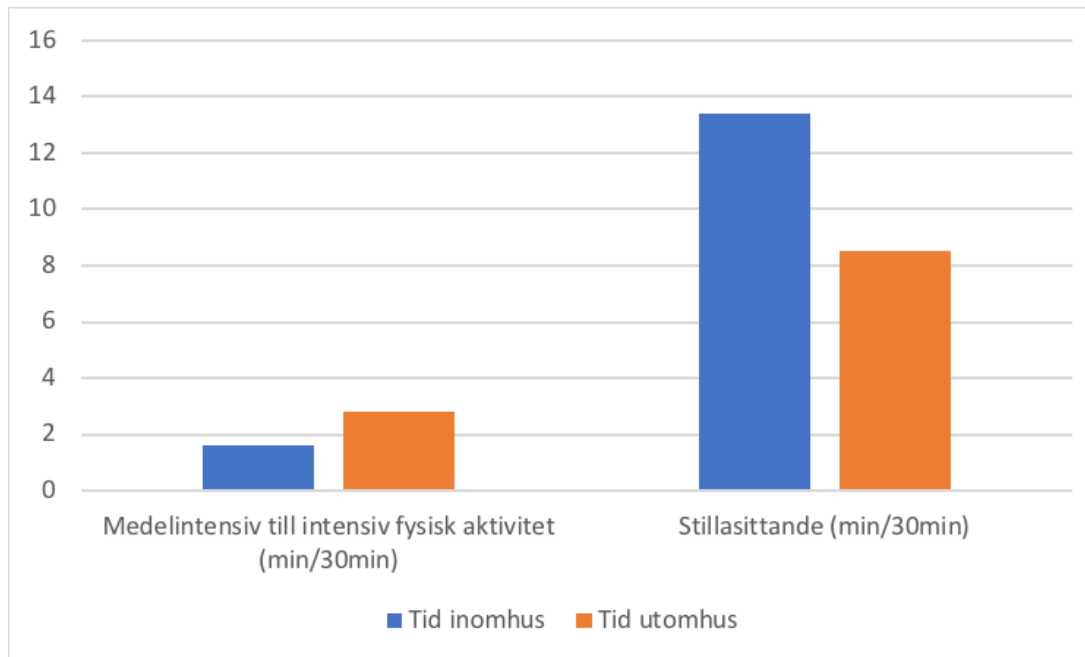
**Tabell 2. Justerade medelvärden för medelintensiv till intensiv fysisk aktivitet, stillasittande och antal steg hos barn under tid på förskolan (n=337).**

	Medelintensiv till intensiv fysisk aktivitet (min)			Stillasittande (min)			Steg		
	Medelvärde	SA*	p-värde	Medelvärde	SA*	P-värde	Medelvärde	SA*	P-värde
<b>Policy</b>									
Ja	44.1	3.3	0.055	161.8	8.5	0.055	7 394	571	0.678
Nej	37.1	1.9	ref.	180.7	4.9	ref.	7 119	334	ref.
<b>Förskolegårdens storlek</b>									
Ingen förskolegård	31.7	6.6	ref.	192.6	17.6	ref.	6 160	857	ref.
Ca: 200 m <sup>2</sup>	34.4	3.6	0.723	167.0	9.9	0.206	6 485	486	0.742
Ca: 900 m <sup>2</sup>	36.7	3.7	0.508	179.2	9.9	0.508	6 727	479	0.564
> 2700 m <sup>2</sup>	41.1	2.5	0.184	178.7	7.0	0.462	7 316	344	0.210
Utgrupp	45.6	4.5	0.083	165.7	11.6	0.202	10 064	545	<b>&lt; 0.001</b>
<b>Tid utomhus</b>									
Q1**	36.8	2.9	ref.	170.0	6.5	ref.	6 231	288	ref.
Q2	32.0	2.7	0.160	178.6	6.0	0.216	6 484	265	0.365
Q3	39.3	2.6	0.485	177.5	5.9	0.314	7 561	263	<b>&lt; 0.001</b>
Q4	47.6	2.9	<b>0.006</b>	178.7	6.6	0.292	8 777	291	<b>&lt; 0.001</b>

\*Standardavvikelse. \*\*Tid utomhus uppdelat i kvartiler där Q1 är de 25 % som spenderar minst tid utomhus. Justerat för ålder, kön, kroppsmasseindex (BMI) och föräldrars utbildning.

**Tabell 1. Policyer och dess komponent bland de sju förskolor som rapporterade skriftlig policy.**

Policy eller regelverkets komponent	Antal skolor som rapporterar
Minimitid avsatt för daglig utevistelse	7
Regelbunden organiserad fysisk aktivitet	5
Begränsning av längre stillasittande perioder	2
Personalen främjar fysisk aktivitet vid utevistelse	6
Föräldrar lämnar och/eller hämtar barnen ute	7
Personalen deltar aktivt i barnens fysiskt krävande lekar	6
Personalen undviker att ägna utevistelsen på gården på gården till planering, telefonsamtal, tala med kollegor	7



Tid utomhus är kopplat till:

68% mer medelintensiv till intensiv fysisk aktivitet

37% mindre stillasittande

102% mer steg/min

# Aktiva pedagoger = aktiva barn, eller tvärtom?

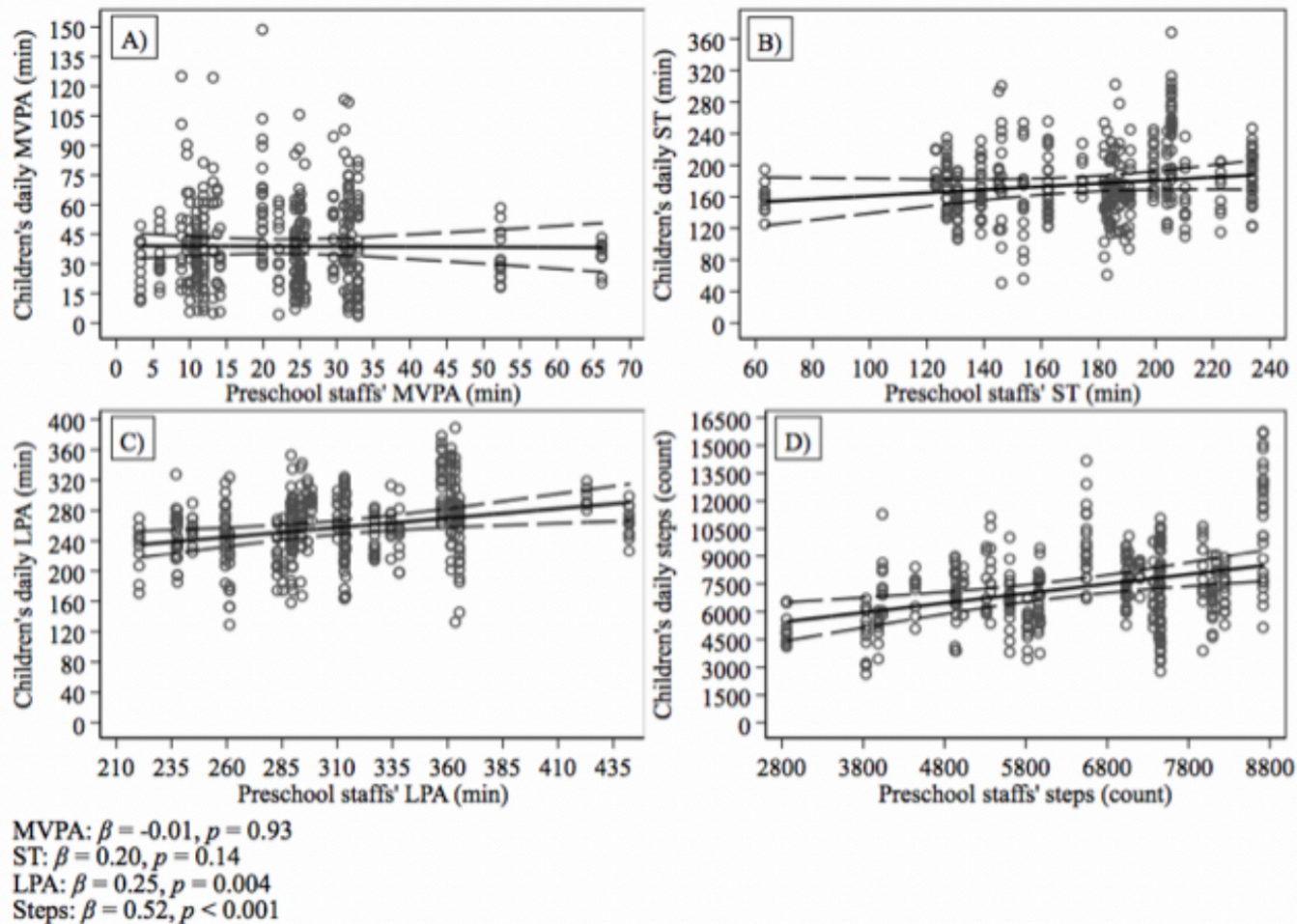
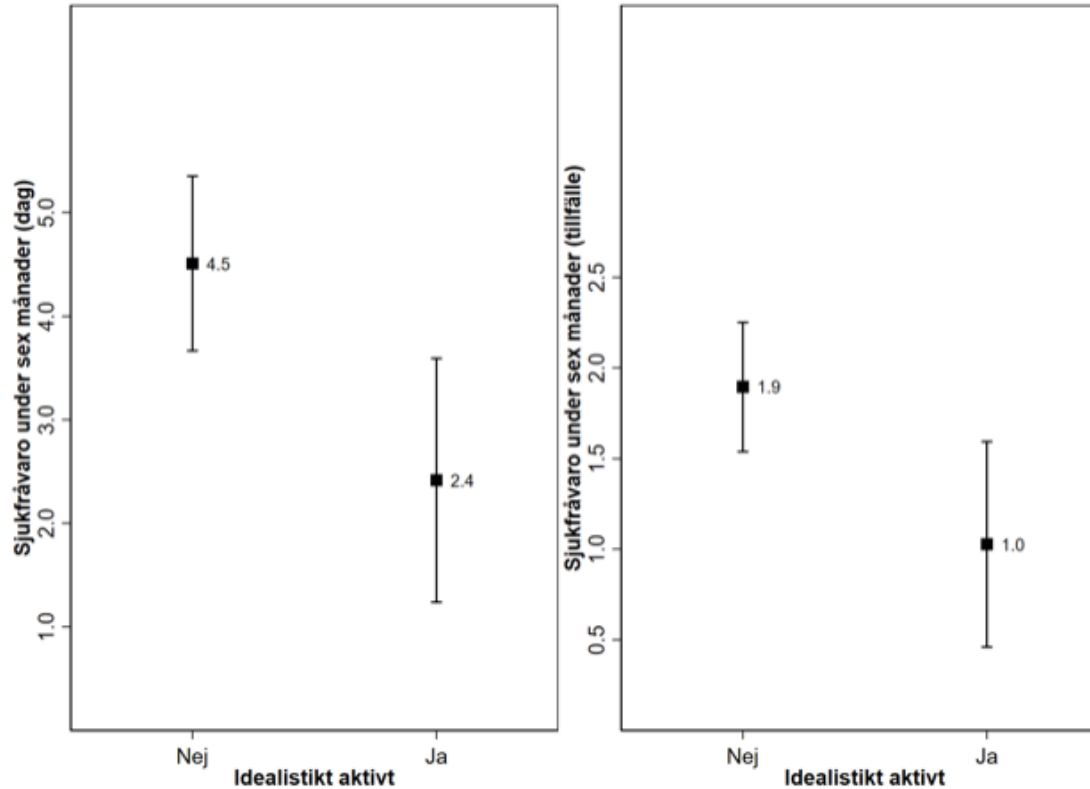


Figure 1 Associations between teachers' PA indicators and children's PA indicators during preschool time

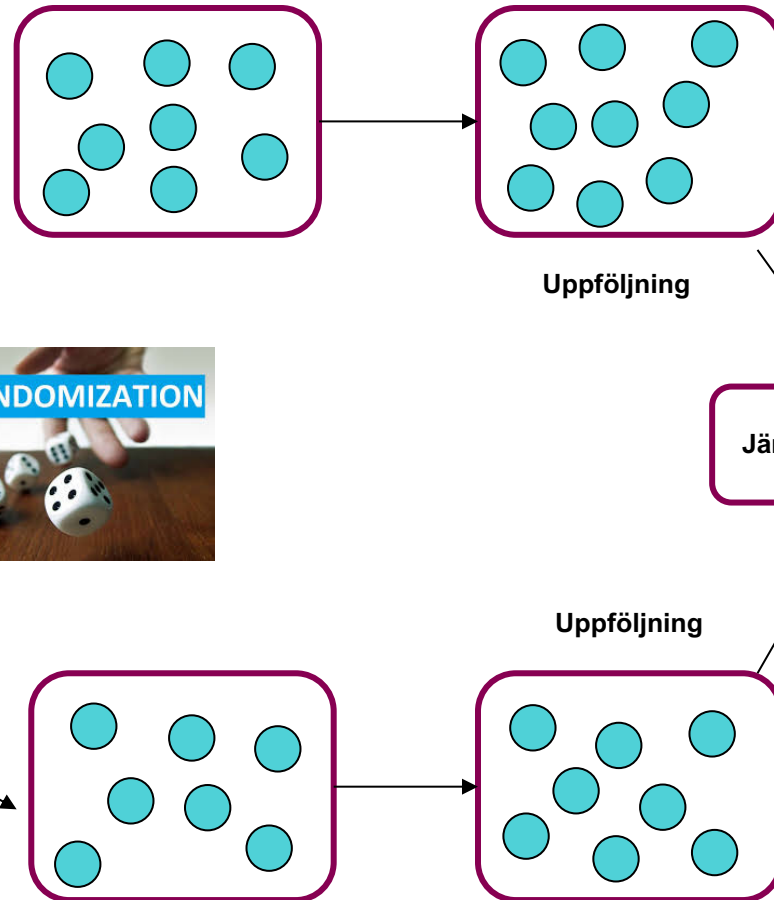
Abbreviations: PA = physical activity, MVPA = moderate to vigorous physical activity, LPA = light physical activity, ST = sedentary time

# Mer fysisk aktivitet är kopplat till mindre sjukfrånvaro hos förskolebarn



# Kan en policy för fysisk aktivitet på förskolan öka förskolebarns nivåer av fysisk aktivitet?

Stadsdelsområde	Kommnala förskolor
Bromma stadsdelsområde	52
Enskede-Årsta-Vantörs stadsdelsområde	61
Farsta stadsdelsområde	39
Hägersten-Liljeholmens stadsdelsområde	63
Hässelby-Vällingby stadsdelsområde	46
Kungsholmens stadsdelsområde	32
Norrmalms stadsdelsområde	31
Rinkeby-Kista stadsdelsområde	30
Skarpnäcks stadsdelsområde	31
Skärholmens stadsdelsområde	24
Spånga-Tensta stadsdelsområde	32
Södermalms stadsdelsområde	48
Älvsjö stadsdelsområde	22
Östermalms stadsdelsområde	37
	548





## Öka nivåer av fysisk aktivitet på samhällsnivå

### Individnivå

Aktiva föräldrar = aktiva barn

Aktiv transport

### Organisationsnivå

Policy för fysisk aktivitet

Fysisk aktivitets-främjande miljöer/initiativ

### Samhällsnivå

Planera/skapa fler möjligheter till fysisk aktivitet

Fysisk aktivitet ska vara det "enklaste" valet, tänk "nudging" för ett aktivt liv