

# Viden om friluftslivs effekter på sundhed

- resultater fra en systematisk forskningsoversigt
- fremme af fysisk aktivitet og folkesundhed?



Steno Diabetes Center  
Copenhagen

KØBENHAVNS  
UNIVERSITET



Friluftsrådet

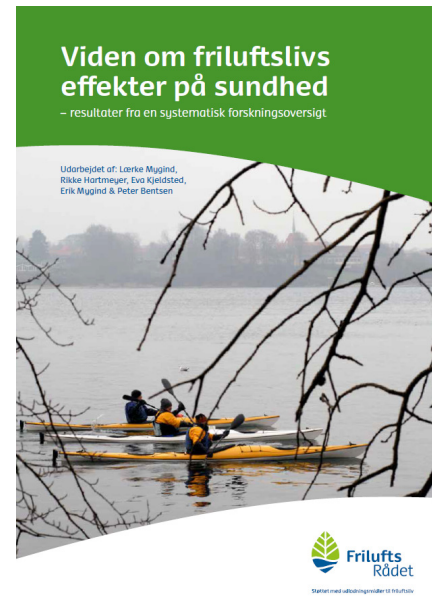
Støttet med udlodningsmidler til friluftsliv

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SDCC Sundhedsfremmeforskning  
Vejde, oktober 2019



# Forskningsoversigtens formål

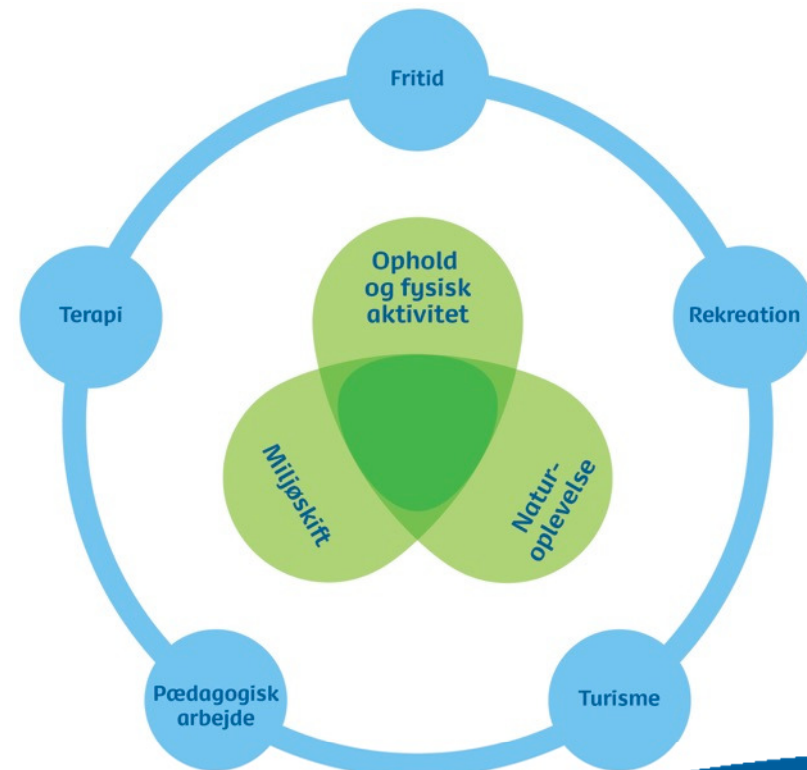
... at beskrive og vurdere dokumenteret viden om effekterne af friluftsliv i fritiden, i pædagogisk praksis i forbindelse med uddannelse- og daginstitutioner og i social- og sundhedssektoren på fysisk, mental og social sundhed



# Friluftsliv: Definition og sektorer

**Individets brug af naturen til ophold eller aktiviteter, som giver en oplevelse af at komme nærmere naturen og af at forholde sig til naturen fysisk og/eller mentalt**

- Naturen forstås bredt, dvs. som park, skov, hav, strand, landet mv., men omfatter ikke faste anlæg (fx til sport, streetaktiviteter, skating mv.) eller virtuel natur.
- Der vil være tale om et miljøskifte på den måde, at privatpersoner bevæger sig uden for hjem og grund, landmanden væk fra egen mark, børn og pædagoger uden for daginstitutionens egen gård og legeplads osv.
- Friluftsliv foregår i fritiden eller som led i social-, sundheds-, daginstitutionens- og uddannelsestilbud.
- Friluftsliv kan være både lav-, mellem eller højintensiv fysisk aktivitet, men det primære formål er ikke konkurrence.
- Friluftsliv foregår ikke under transport direkte mellem to punkter, som fx bopæl og arbejdsplads.
- Til aktiviteter henregnes ikke benyttelse af motoriserede køretøjer, medmindre der er tale om hjælpemidler til gangbesværede og handicappede.



# Sundhed: Definition og domæner

*“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”*

(World Health Organization 1946, s. 1)

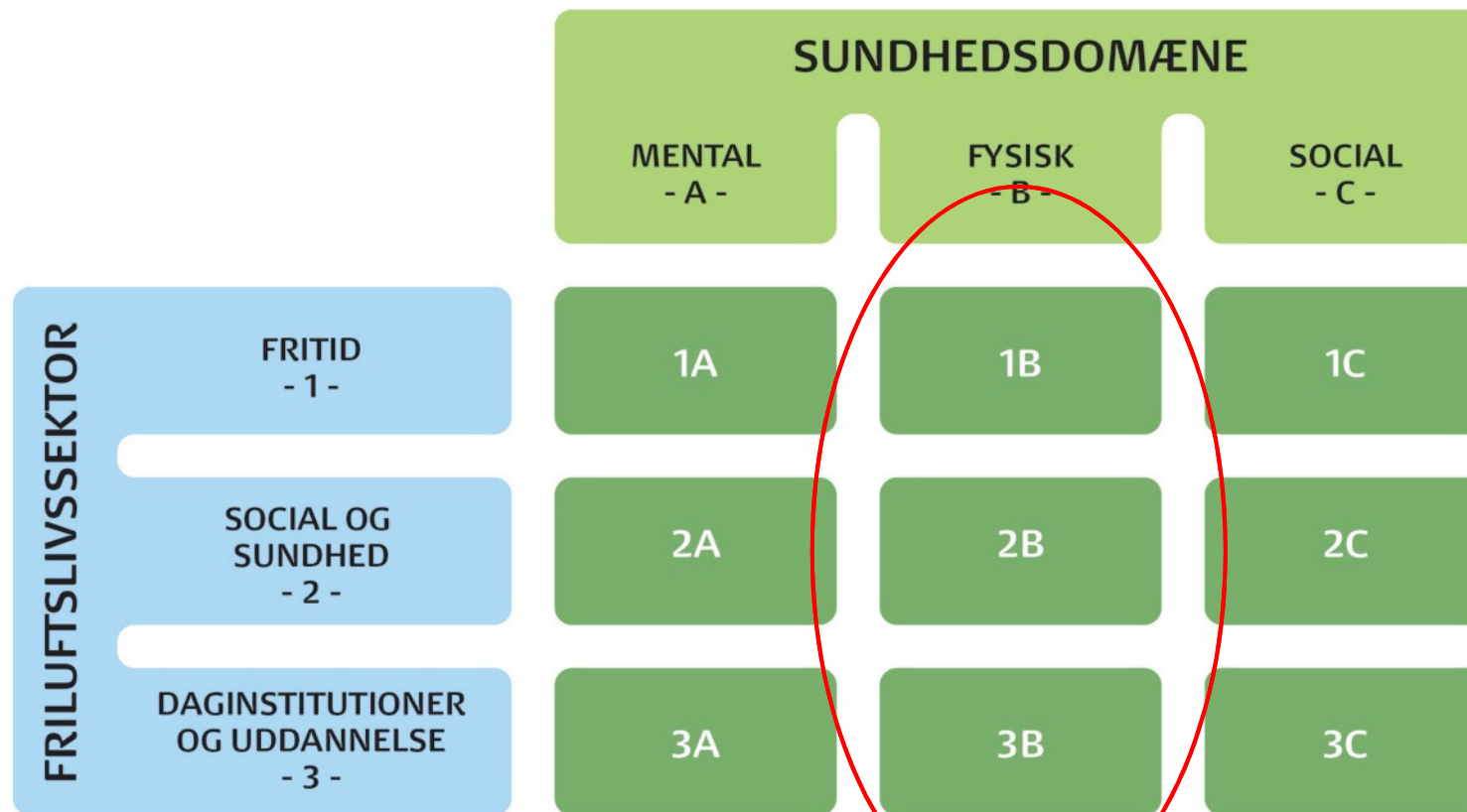
**Fysisk sundhed** dækker over fysiologiske og biologiske symptomer og processer, samt selvvurderede forhold af denne art.

**Mental sundhed** relaterer sig til kognitiv og emotionel funktion og velvære.

**Social sundhed** kategoriseres som sociale færdigheder, relationer og socialt velvære, fx tiltro til egen værdi i forhold til andre mennesker.



# Forskningsoversigtens indhold og opbygning

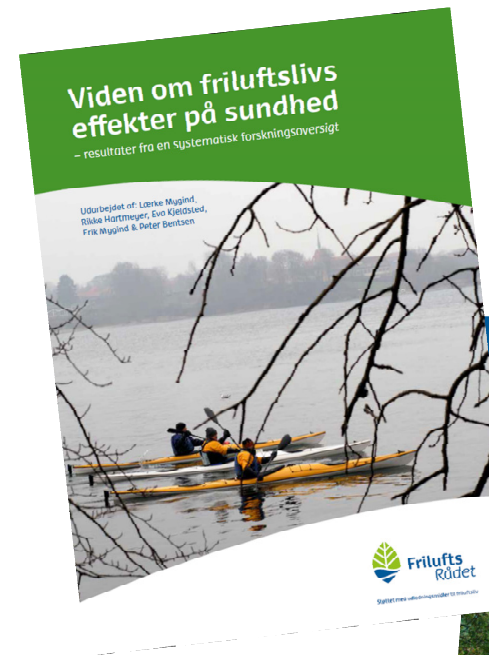


# Forskningsoversigt

## Hovedkonklusion I

... en halv til en hel times gåtur eller siddende afslapning i natur og grønne områder medfører overvejende en større akut reduktion i stressniveauer og fremme af forskellige kognitive funktioner end samme aktiviteter i urbane og indendørs omgivelser.

**Evidens for effekt:** Moderat



# Resultater II

## Hovedkonklusion II

... intense og krævende ekspeditioner i vild eller urban natur samt kortere- og/eller længerevarende primitive lejrbaserede ophold fremmer på kort sigt selvforståelse, evne til at indgå i sociale sammenhænge, familieudvikling, adfærd samt kropslig funktion og fysisk sundhed fx målt via ændringer i vægt. Der er indikationer af, at adfærdsændringerne i forbindelse med fx misbrug og kriminalitet er vedvarende over længere tid.

**Evidens for effekt:** Svag til moderat.

## Hovedkonklusion III

... at anvendelsen af friluftsliv i dagsinstitutioner eller i skolars undervisning hænger positivt sammen med børns mentale, sociale og fysiske sundhed.

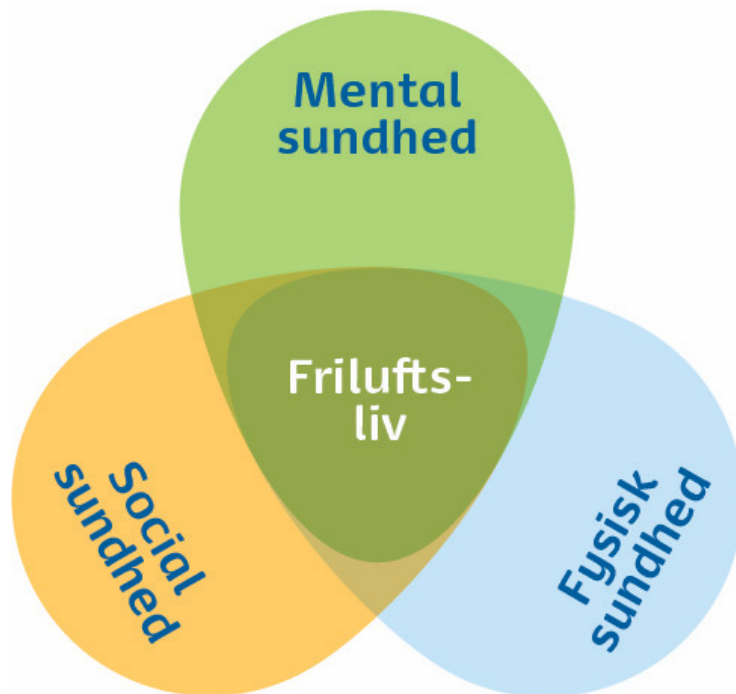
**Evidens for effekt:** Svag.

# Til praktikere

- Facilitere korterevarende, lav-intense aktiviteter i natur og grønne områder med henblik på reduktion af akutte stressniveauer (relativ sikker viden).
- Facilitere fysiske friluftslivsaktiviteter (meget sikker viden).
- Forskningsoversigter (samarbejde og planlægning).
- Afprøve intense og krævende ekspeditioner i vild eller urban natur samt kortere- og/eller længerevarende primitive lejrbaserede.
- Afprøve igangsættelse af friluftsliv i daginstitutioner eller i skolers undervisning.
- Evaluering (systematik og offentliggørelse).

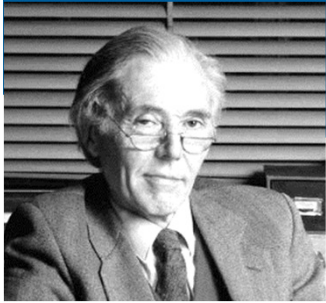


# Uudnyttede potentialer?



“Der er dog sparsom viden om, hvordan og under hvilke forudsætninger friluftsliv gavner folkesundheden, så potentialet udnyttes til fulde”



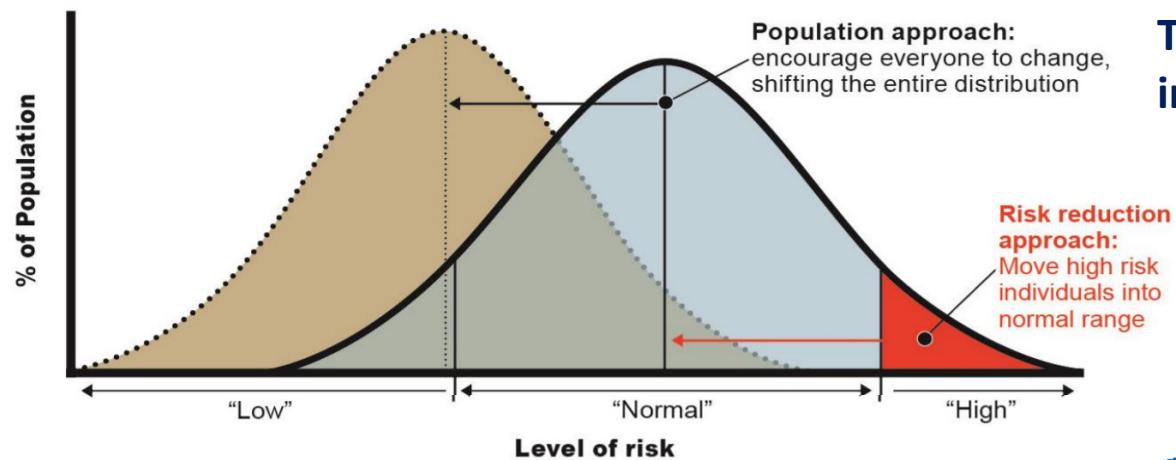


# En (universal, vulnerable\* or risk) populations-tilgang

**Geoffrey Arthur Rose**

EMERITUS PROFESSOR (FORMERLY) OF EPIDEMIOLOGY  
DEPARTMENT OF EPIDEMIOLOGY LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

Small impact for individuals but considerable impact  
for the wider population (Rose 1985, 1992, 2001)



Graphic source:  
Rose (1985)

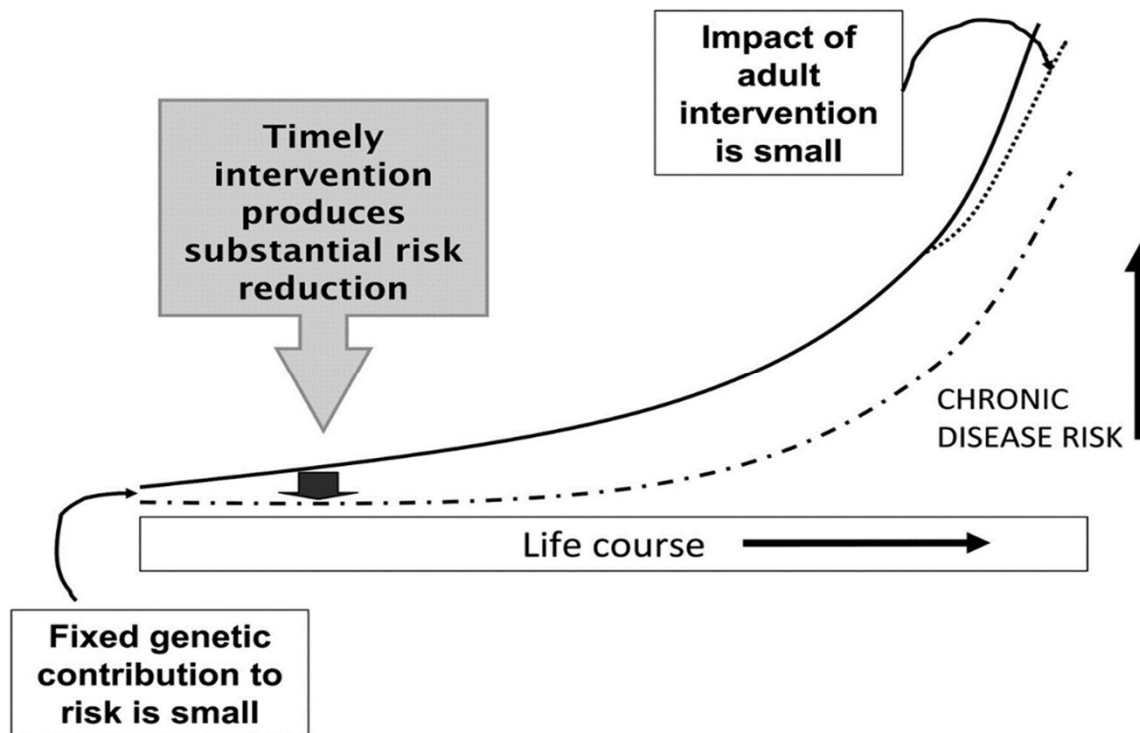
\* Frohlich & Potvin (2008)



# Et livsforløbsperspektiv/-tilgang

**Professor Mark Hanson**

BRITISH HEART FOUNDATION PROFESSOR OF CARDIOVASCULAR SCIENCE  
FACULTY OF MEDICINE AT THE UNIVERSITY OF SOUTHAMPTON



Graphic source:  
Hanson & Gluckman (2011)

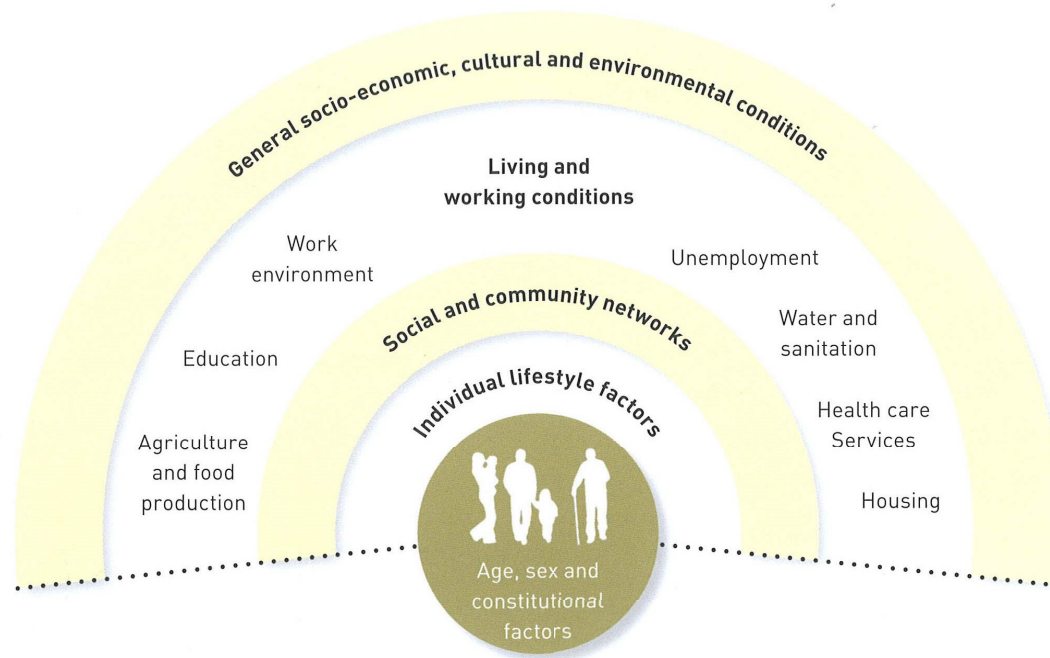
# En tværsektoriel, -videnskabelig og -professions-tilgang



**Professor Dame Margaret Whitehead**

W.H. DUNCAN CHAIR OF PUBLIC HEALTH

DEPARTMENT OF PUBLIC HEALTH AND POLICY, THE UNIVERSITY OF LIVERPOOL



“ The prerequisites and prospects for health cannot be ensured by the health sector alone...

Health promotion demands coordinated action by all concerned

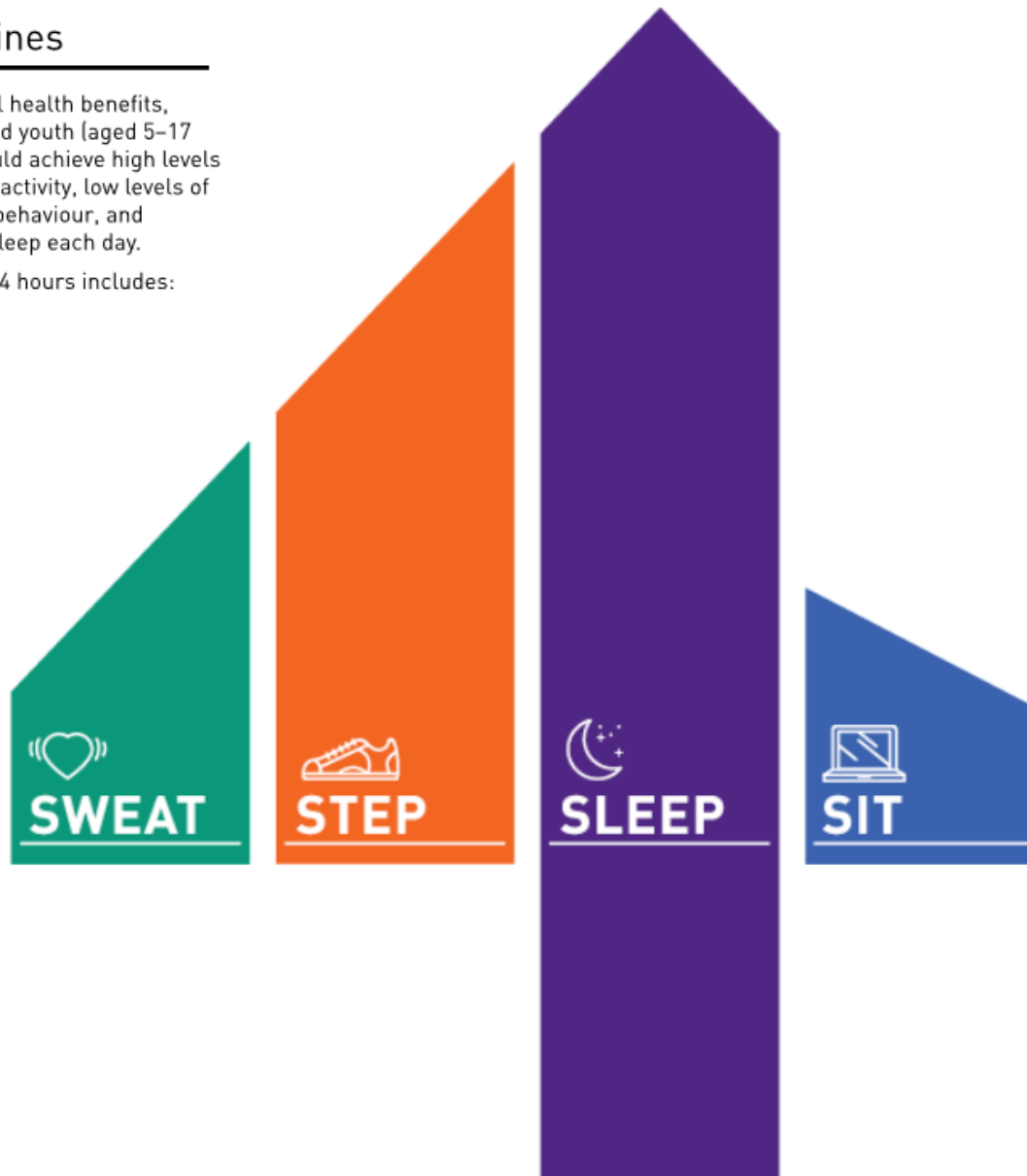


Quote source:  
WHO (1986)

## Guidelines

For optimal health benefits, children and youth (aged 5–17 years) should achieve high levels of physical activity, low levels of sedentary behaviour, and sufficient sleep each day.

A healthy 24 hours includes:



## SWEAT

### MODERATE TO VIGOROUS PHYSICAL ACTIVITY

An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle and bone strengthening activities should each be incorporated at least 3 days per week;

## STEP

### LIGHT PHYSICAL ACTIVITY

Several hours of a variety of structured and unstructured light physical activities;

## SLEEP

### SLEEP

Uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years, with consistent bed and wake-up times;

## SIT

### SEDENTARY BEHAVIOUR

No more than 2 hours per day of recreational screen time; Limited sitting for extended periods.

Preserving sufficient sleep, trading indoor time for outdoor time, and replacing sedentary behaviours and light physical activity with additional moderate to vigorous physical activity can provide greater health benefits.

# Tid udendørs og i naturen som mekanisme?

## QUANTITATIVE RESEARCH

### Outdoor time, physical activity and sedentary time among young children: The 2012–2013 Canadian Health Measures Survey

Richard Larouche, PhD,<sup>1</sup> Didier Garriguet, MSc,<sup>2</sup> Mark S. Tremblay, PhD<sup>1,3</sup>

#### ABSTRACT

**OBJECTIVES:** Previous studies have shown that children who spend more time outdoors are more active and spend less time sedentary, but these studies were limited by the use of small convenience samples. We examined the relationship between outdoor time and measures of physical activity (PA), screen time and sedentary time in a nationally-representative sample of young children.

**METHODS:** Parental reports of outdoor time were obtained for 594 children aged 3–6 years (47.8% girls) who participated in the 2012–2013 Canadian Health Measures Survey. Participants were asked to wear an Actical accelerometer for seven consecutive days. Outdoor time and screen time were assessed by parent reports. The relationships between outdoor time and measures of PA, screen time and sedentary time were examined with linear regression models. Adherence to PA guidelines was estimated based on a beta-binomial distribution, and adherence with the screen time guidelines was assessed through logistic regression models. All analyses were stratified by age group (3–4 and 5–6 year olds) and adjusted for sex, parental education and household income.

**RESULTS:** Among 5–6 year olds, each additional hour spent outdoors was associated with an additional 10 minutes of moderate-to-vigorous PA (95% CI: 6–14), 27,455 more accelerometer counts/day (95% CI: 11,929–42,980) and an increased likelihood of meeting the PA guidelines (OR = 2.53; 95% CI: 1.68–3.82). No significant relationships were observed among 3–4 year olds.

**CONCLUSION:** Outdoor time has a large effect on PA among 5–6 year olds at a population level. Future studies should examine the correlates of outdoor time to inform novel PA promotion interventions.

**KEY WORDS:** Motor activity; child; television; surveys and questionnaires

La traduction du résumé se trouve à la fin de l'article.

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Physical activity (PA) is one of the key health behaviours that contribute to reduced mortality and morbidity worldwide.<sup>1</sup> Even in children aged less than 5 years, higher PA levels are associated with a more favourable body composition, greater motor skill development, and improved psychosocial health.<sup>2</sup> Conversely, sedentary behaviour (particularly TV viewing) is associated with increased adiposity and less favourable psychosocial and cognitive development.<sup>3</sup> Collectively, this body of evidence underscores the need to promote PA and reduce screen time among young children.

The Canadian PA and sedentary behaviour guidelines recommend that children less than 5 years old accumulate at least 180 minutes of daily PA of any intensity and spend less than 1 hour per day on screen time.<sup>4,5</sup> Corresponding guidelines for children 5–17 years of age recommend at least 60 minutes of daily moderate-to-vigorous physical activity (MVPA) and no more than 2 hours of daily recreational screen time.<sup>6,7</sup> Nationally-representative data from the 2009–2013 Canadian Health Measures Survey (CHMS) indicated that 73% of 3–4 year olds met the PA guidelines, but only 22% met the screen time recommendation.<sup>8</sup> Compliance with the PA guidelines was much lower in 5 year olds (30%), although 76% met the screen time guideline.<sup>8</sup> Therefore, insufficient PA and excessive screen time among young children represent important public health issues.

One potential strategy for increasing PA and reducing sedentary time (SED) is to encourage children to spend more time outdoors. All eligible studies in a recent systematic review observed that children aged 3–12 years who spend more time outdoors accumulate more daily MVPA and engage in less SED.<sup>9</sup> Many other authors have emphasized the important role of unstructured play for children's physical, emotional, social and cognitive well-being.<sup>10–12</sup> However, most studies to date have been conducted in relatively small convenience samples,<sup>9</sup> therefore the generalizability of their findings is unclear.

The primary objectives of our study were to describe outdoor time in a nationally-representative sample of Canadian children aged 3–6 years attending school or daycare, and to assess the

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- Acknowledgements:** Richard Larouche holds a postdoctoral fellowship from the Canadian Institutes of Health Research.
- Sources of Funding:** The 2012–2013 Canadian Health Measures Survey was funded by Statistics Canada, Health Canada, and the Public Health Agency of Canada.
- Conflict of Interest:** None to declare.

### Outdoor time, physical activity, sedentary time, and health indicators at ages 7 to 14: 2012/2013 Canadian Health Measures Survey

by Richard Larouche, Didier Garriguet, Katie E. Gummell, Gary S. Goldfield and Mark S. Tremblay

#### Abstract

**Background:** International data show that the majority of children and youth are not sufficiently active. According to recent research, children who spend more time outdoors accumulate more daily moderate-to-vigorous physical activity and engage in less sedentary behaviour. However, the generalizability of these findings is uncertain, and few studies investigated whether outdoor time is associated with other physical and psychosocial health indicators.

**Data and methods:** This study examined associations between outdoor time and measures of physical activity, sedentary time, and physical and psychosocial health in a nationally representative sample of 7-to-14-year-olds ( $n = 1,159$ ) who participated in the 2012/2013 Canadian Health Measures Survey. Physical activity and sedentary time were measured with Actical accelerometers. Direct measures of height, weight, waist circumference, grip strength, blood pressure, cholesterol, and glycohemoglobin were obtained. The Strengths and Difficulties Questionnaire was used to assess psychosocial health. Relationships between outdoor time and physical health measures were examined with multi-variable linear regression models adjusted for age, sex, parental education, and household income. Logistic regression models controlling for the same variables were used for psychosocial health.

**Results:** Each additional hour spent outdoors per day was associated with 7.0 more minutes of moderate-to-vigorous physical activity, 762 more steps, and 13 fewer minutes of sedentary time. As well, each hour outdoors was associated with lower odds of negative psychosocial outcomes (specifically, peer relationship problems and total difficulties score). Outdoor time was not associated with any of the measures of physical health.

**Interpretation:** Children reporting more time outdoors are more active, less sedentary, and less likely to have peer relationship problems, compared with those who spend less time outdoors.

**Keywords:** Accelerometer, child development, exercise, mental health, motor activity, outdoor play, physical fitness

International evidence consistently shows that the majority of children and youth are not sufficiently active.<sup>1,4</sup> This is often described as a physical inactivity crisis<sup>1,5</sup> because, even at young ages, low physical activity is associated with the clustering of cardiovascular disease risk factors.<sup>6,7</sup> Furthermore, population-based studies have reported that more than half the waking hours of children and adolescents are spent engaging in sedentary behaviours,<sup>1,4</sup> which is also associated with detrimental health and psychosocial outcomes.<sup>8</sup>

According to recent research, children who spend more time outdoors accumulate more daily moderate-to-vigorous physical activity (MVPA) and less sedentary time.<sup>9,10</sup> In a systematic review,<sup>9</sup> all eligible studies found positive associations between time outdoors and physical activity. However, because of reliance on convenience samples that are not representative of the population, the generalizability of these findings is uncertain. Moreover, few studies investigated whether outdoor time is associated with health indicators such as body composition, strength, and cardiovascular disease risk factors.<sup>11</sup>

The importance of play in children's development has been recognized in the United Nations' Convention on the Rights of the Child.<sup>12</sup> A number of studies<sup>13–18</sup> have emphasized the role of unstructured outdoor play in physical, emotional, social, and cognitive well-being, and evidence suggests that outdoor play is helpful in the management of attention-deficit/hyperactivity disorder.<sup>19,20</sup> Other research has found that exposure to natural

settings can contribute to children's resilience and cognitive functioning.<sup>21,22</sup> However, associations between outdoor time and psychosocial health have not been investigated in a population-based sample of school-aged children.

The present study examines the relationship between time outdoors and physical activity, sedentary time, and physical and psychosocial health among 7- to 14-year-olds who participated in the 2012/2013 Canadian Health Measures Survey (CHMS). It was hypothesized that more outdoor time would be associated with increased physical activity, less sedentary time, and more favourable physical and psychosocial health.

#### Data and methods

##### Data source

The CHMS is an ongoing Statistics Canada survey of household residents aged 3 to 79 in the ten provinces. About 96% of Canadians are represented. The survey excludes persons living in the three territories; persons living on reserves and in other Aboriginal settlements in the provinces; full-time members of the Canadian Forces; the institutionalized population; and residents of certain remote regions.

The CHMS involves an interview in the respondent's home and direct physical measures at a mobile examination centre.<sup>23–26</sup> Cycle 3 was the first to contain questions about chil-

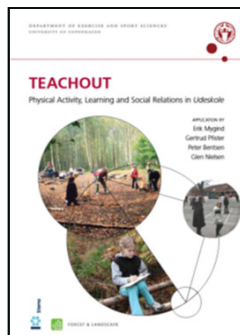
# Eksempler fra SDCC Sundhedsfremme

## Fokus på yngre børn

- PLAYOUT: Ude- og naturbørnehaver, trivsel og sundhed
- Naturtiltag i børnehaver som tidlig indsats for socialt udsatte børn
- Naturfamiliegrupper, mødregrupper og naturklubber

## Fokus på lidt ældre børn

- Hvad foregår der i børns hjerner under ophold i naturen?
- Natur, friluftsliv og børns physical literacy, fysiske aktivitet, motorik, læring og trivsel



# Om forskningsoversigten

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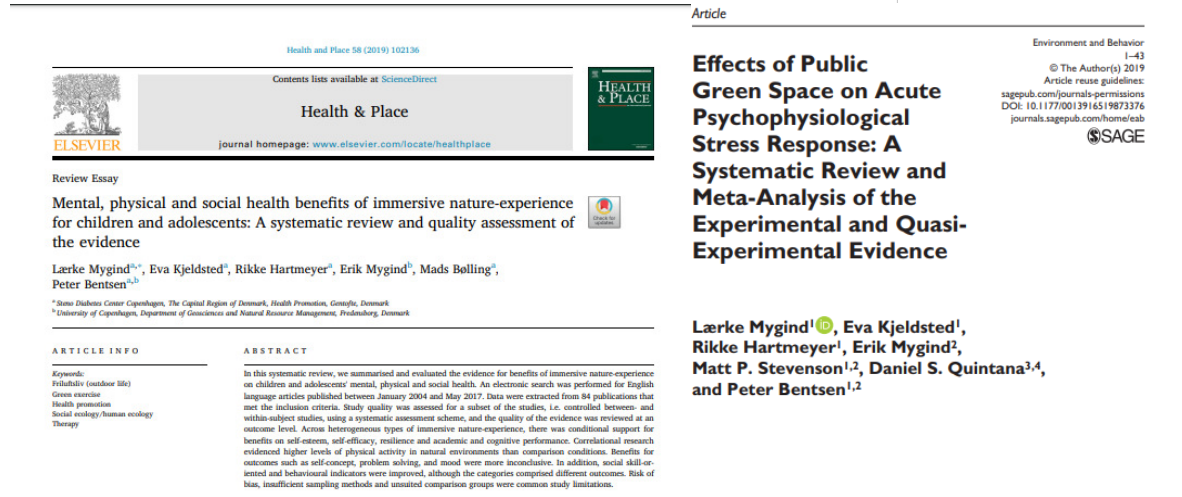
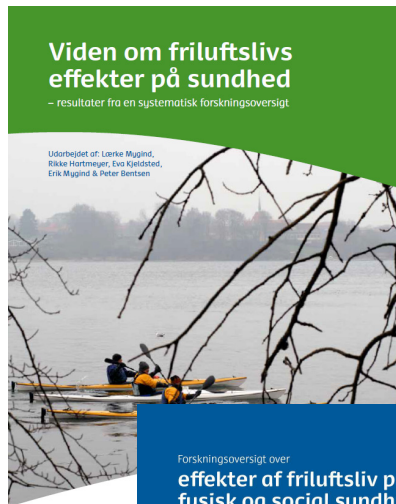
## Støttet af



Støttet med udlodningsmidler til friluftsliv



# For yderligere læsning



# Spørgsmål eller kommentarer?



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