

# Physical activity and sedentary behavior among children in Sweden who survived a brain tumor

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## Background

### WHO 2020 recommends:

- $\geq 60$  min/day average of moderate-to-vigorous physical activity (MVPA)
- Limit sedentary time (ST)

- Data on MVPA and ST levels are scarce in childhood brain tumor survivors

## Aim

- Assess MVPA and ST
- Compare self-reporting and accelerometer measures
- Explore associations (sex, age, tumor location, late complications, treatment)

## Methods

- Cross-sectional study
- Children aged 6-16 years, 6 months to 10 years after treatment

### Self-reports (n=138)

- MVPA, ST, late complications

### Accelerometer (n=49)

- MVPA and ST

### Statistical analysis

- Linear regression



Fibion SENS thigh-worn waterproof accelerometer (7 days, 24/7)

## Results

### MVPA

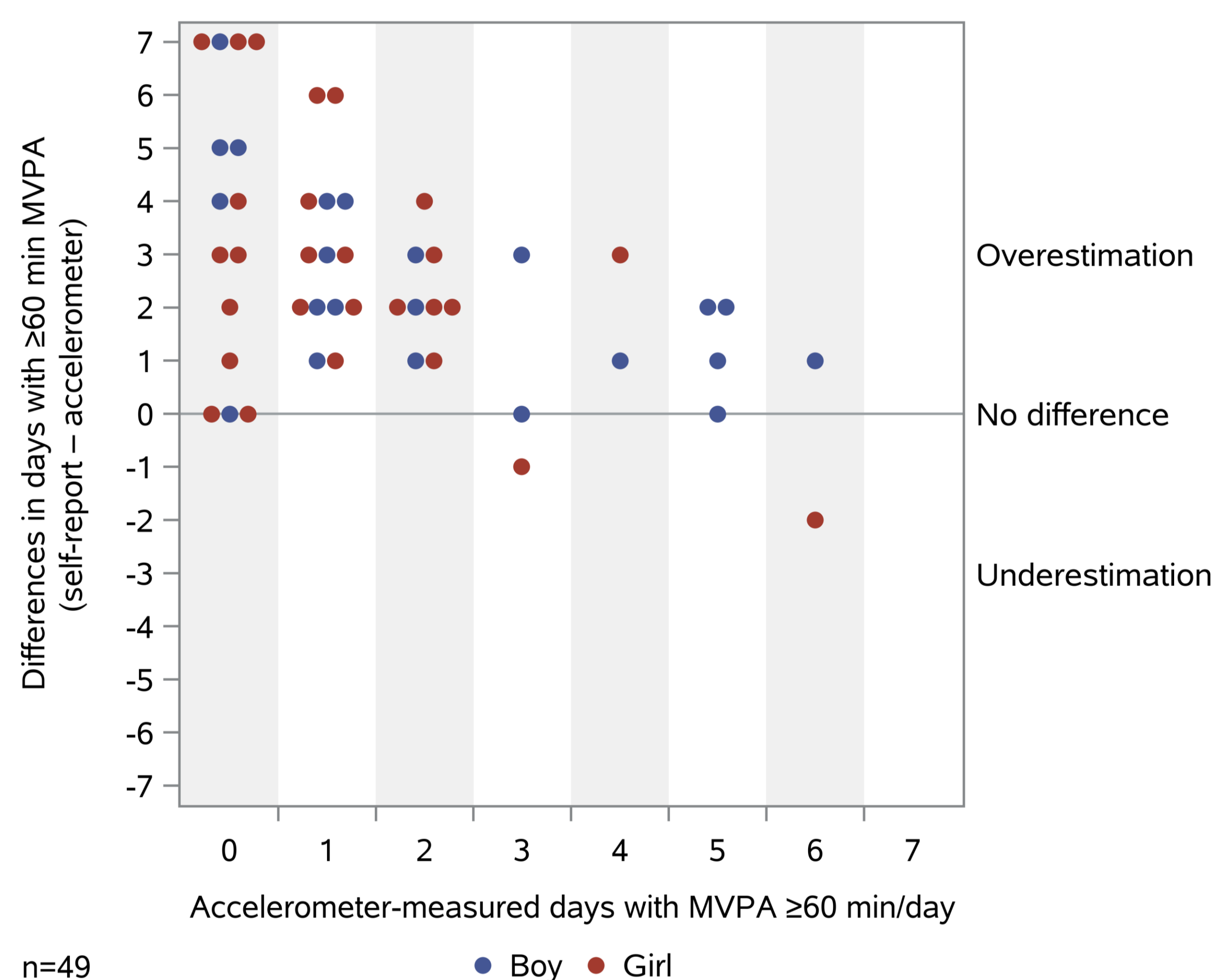
**Mean MVPA: 41 min/day (accelerometer)**

**Meeting recommendations vary by definition and method**

- 16% WHO 2020 (accelerometer,  $\geq 60$  min/day average)
- 15% WHO 2010 (self-reported, questionnaire item)
- 0% WHO 2010 (accelerometer, daily  $\geq 60$  min)

### Self-report vs accelerometer

**Low agreement: 86% overestimated active days by self-report**



### Explanatory factors

**Older children are more sedentary:**

**6-12 years:  $\approx 8.5$  h/day**

**13-16 years:  $\approx 10$ /h day**

No associations were found between MVPA and sex, age, tumor location, late complications, or treatment. For ST, only age was significant.

## Conclusions and Clinical Implications

- Low moderate-to-vigorous-physical activity levels
- Low agreement between methods
- Older children are more sedentary
- Consider objective accelerometer measures