# **Measuring using metrics**



### **Intensity**

- All physical activity results in energy expenditure
- Intensity (absolute) = rate of energy expenditure required to perform activity
- Often grouped into intensity categories
  - These can vary considerably!

Sedentary ≤1.5 METs

Light 1.5 – 2.99 METs

Low-light

High-light

Moderate 3 – 5.99 METs

Vigorous ≥6 METs

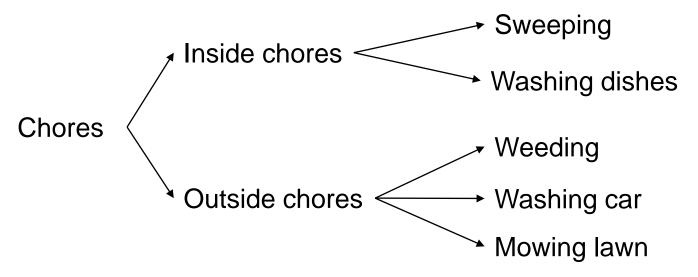
Moderateto vigorous (MVPA)

Ref: Powell et al (2010) Annu Rev Public Health



## **Type**

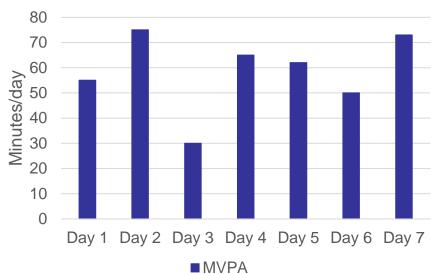
What activity you are doing





#### Volume

Total amount of activity accumulated over a specified period



Ref: Powell et al (2010) Annu Rev Public Health



### **Duration and frequency**

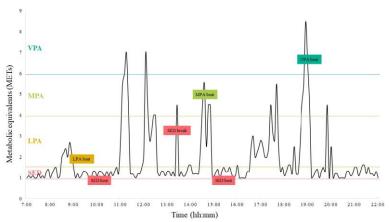
- Duration: Length of time activity (usually min) is continued
- Frequency: Number of times activity performed within a specified time frame (e.g. bouts, sessions/week)

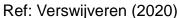
Ref: Powell et al (2010) Annu Rev Public Health

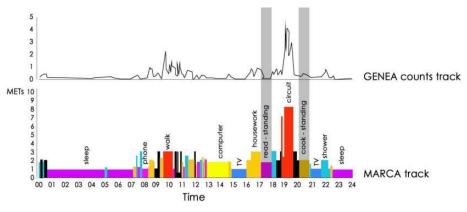


#### **Pattern**

- Temporal dimension (time-related)
- Multiple time points OR continuous measurement
- Consist of frequency, duration, intensity (and type)







Combining multiple data sources



### Context

Where?

When?

Who with?

Enjoyment level?



#### Context

Not all activities are equal!

Differential effects

Physical activity paradox

Leisure time physical activity beneficial for health

Occupational physical activity doesn't improve health

Ref: Holtermann et al (2018) Br J Sports Med

