

# The Four S's of Healthy Childhood Movement: Sweat, Step, Sit, and Sleep

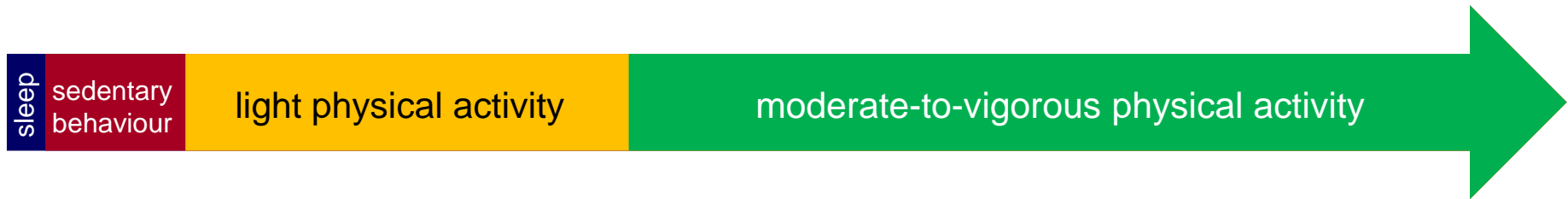
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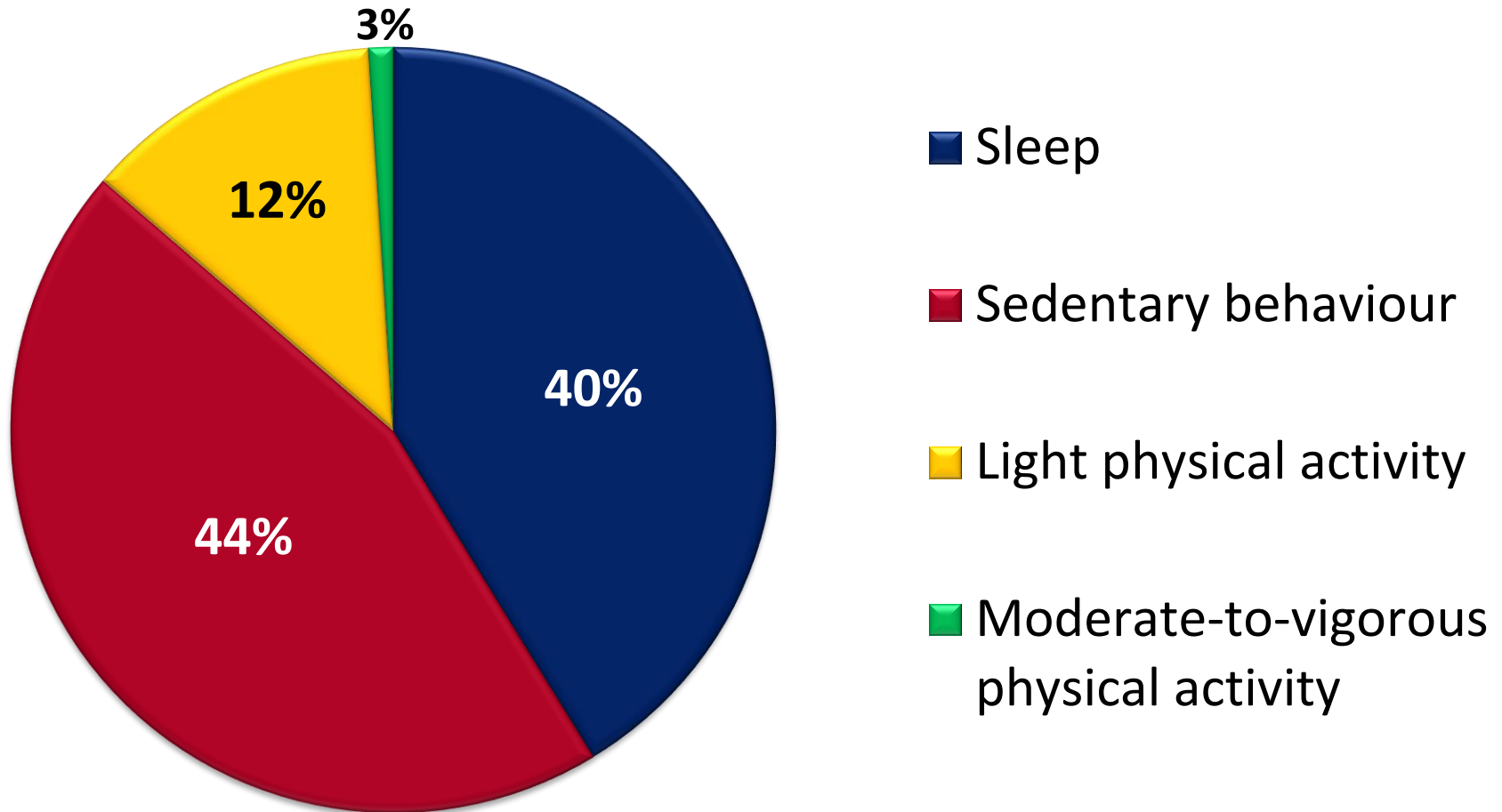




# Movement is a continuum



# Movement across the 24-hour day

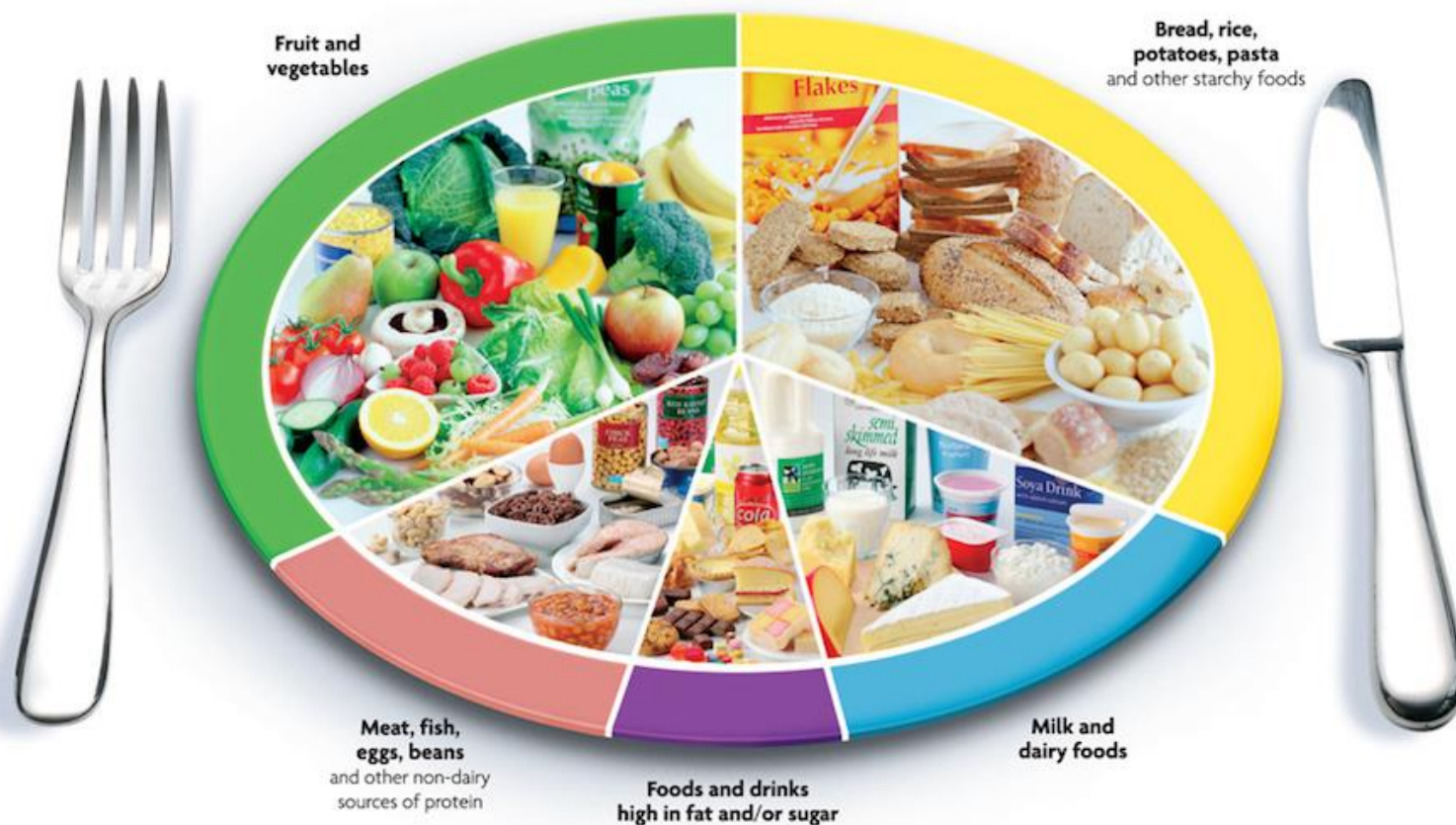


# How do you make a cosmopolitan?



# The eatwell plate

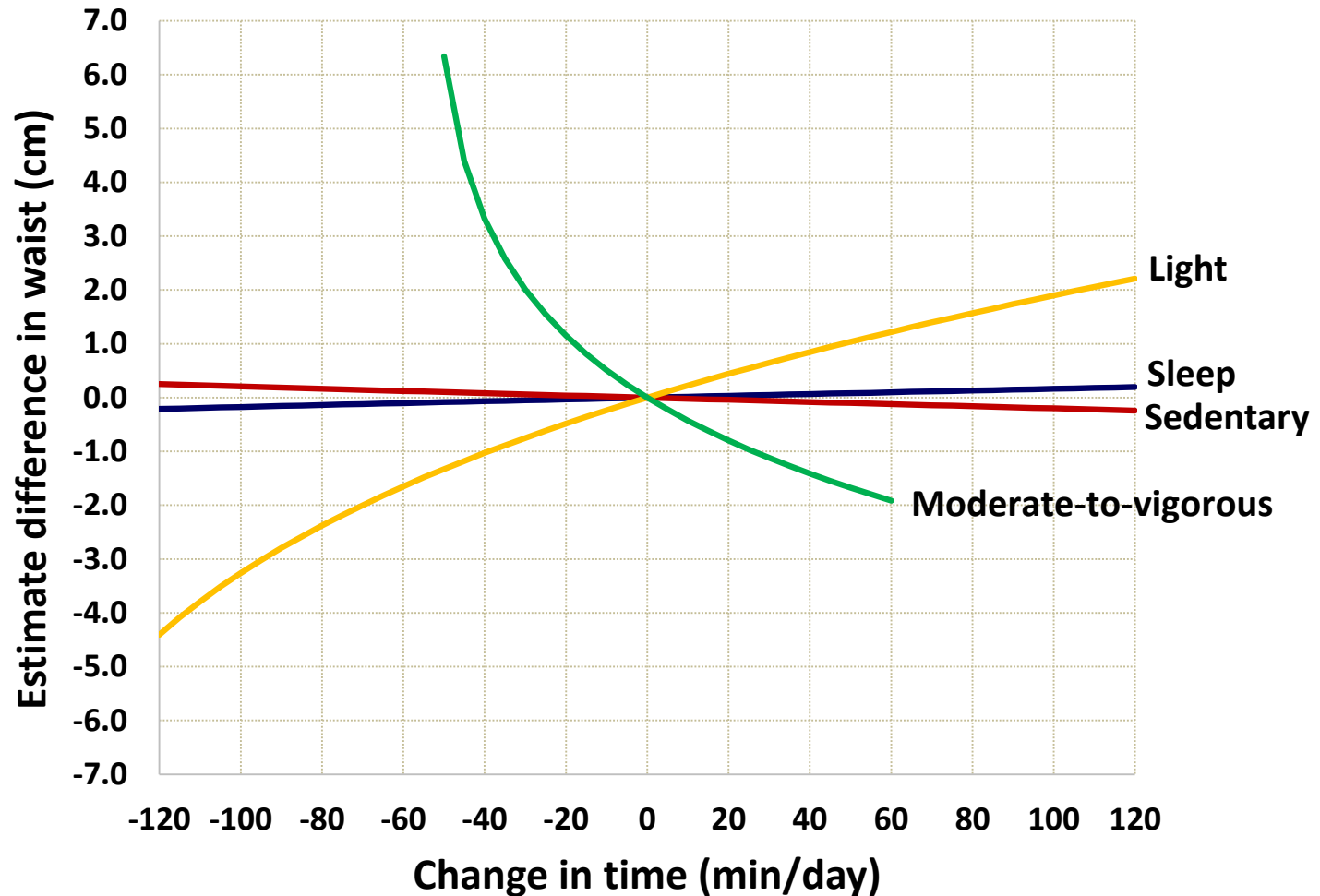
Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.





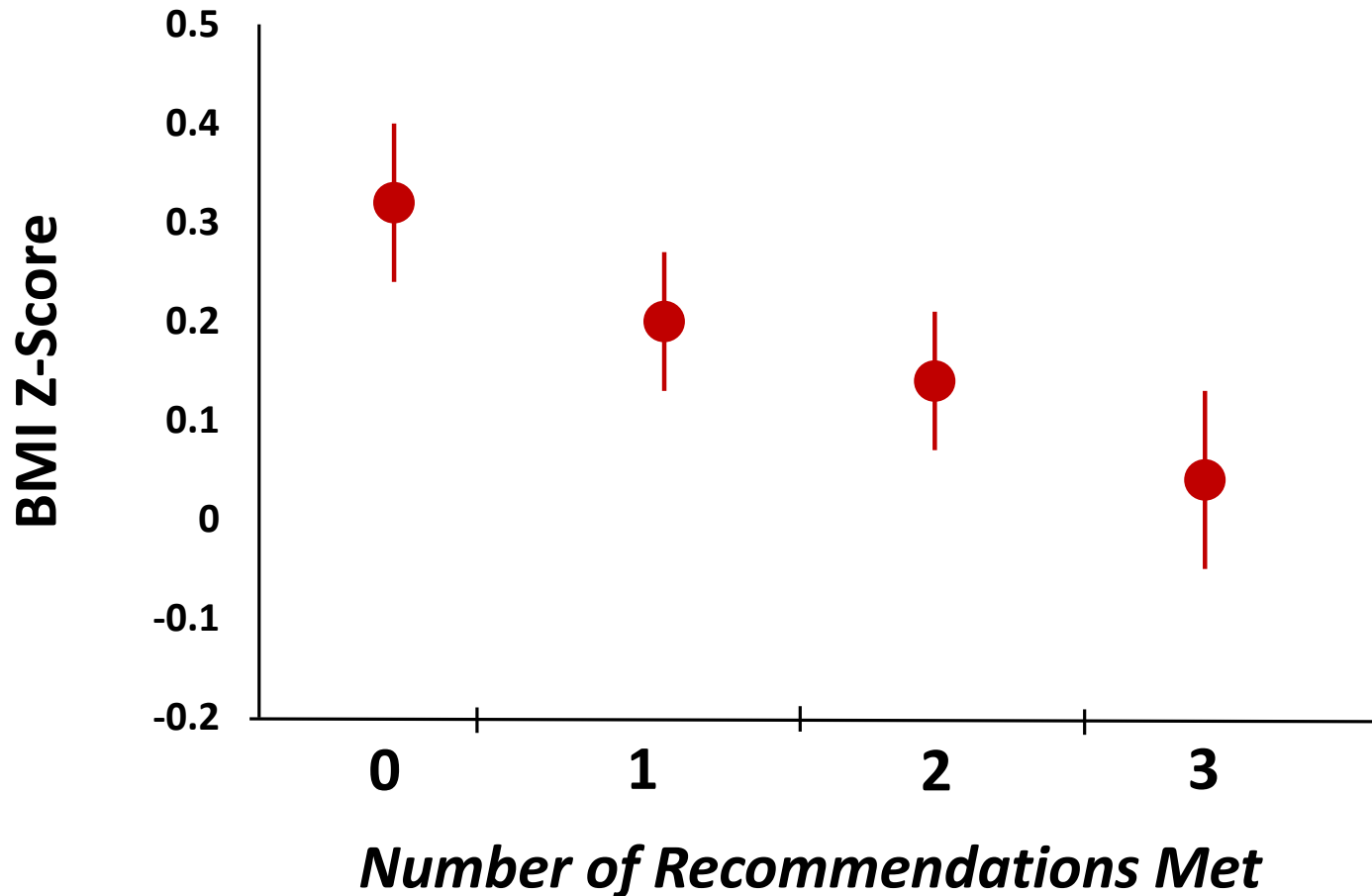


# Change in waist circumference by displacing movement behaviours

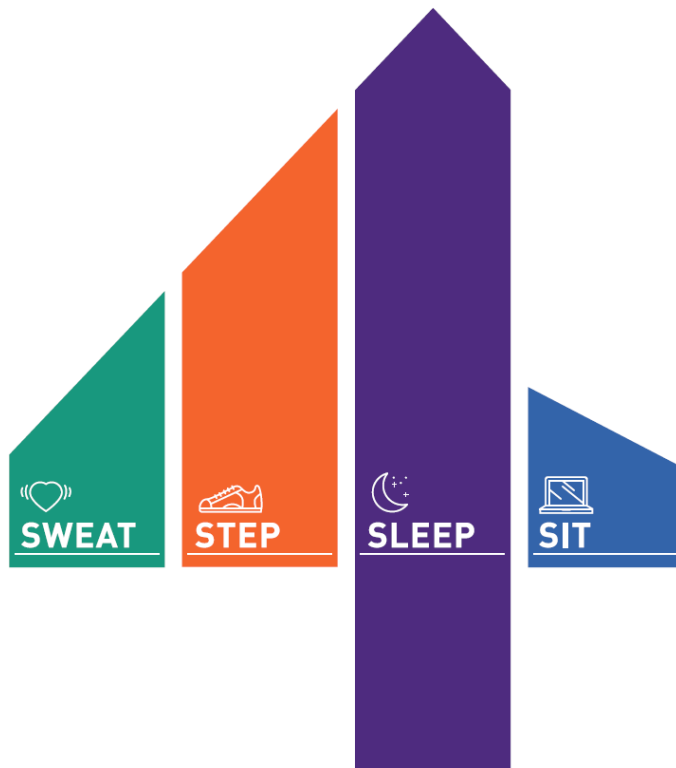




# Adherence to movement recommendations and BMI



# 24-hour movement guidelines for school-aged children and youth



## 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.

# Canadian 24-Hour Movement Guidelines for the Early Years (0-4 years)

For healthy growth and development, infants, toddlers, and preschoolers should achieve the recommended balance of physical activity, high-quality sedentary behaviour, and sufficient sleep.

**A healthy 24 hours includes:**



## MOVE

### INFANTS (LESS THAN 1 YEAR)

Being physically active several times in a variety of ways, particularly through interactive floor-based play—more is better. For those not yet mobile, this includes at least 30 minutes of tummy time spread throughout the day while awake.

### TODDLERS (1-2 YEARS)

At least 180 minutes spent in a variety of physical activities at any intensity, including energetic play, spread throughout the day—more is better.

### PRESCHOOLERS (3-4 YEARS)

At least 180 minutes spent in a variety of physical activities spread throughout the day, of which at least 60 minutes is energetic play—more is better.

## SLEEP

14 to 17 hours (for those aged 0-3 months) or 12 to 16 hours (for those aged 4-11 months) of good-quality sleep, including naps.

11 to 14 hours of good-quality sleep, including naps, with consistent bedtimes and wake-up times.

10 to 13 hours of good-quality sleep, which may include a nap, with consistent bedtimes and wake-up times.

## SIT

Not being restrained for more than 1 hour at a time (e.g., in a stroller or high chair). Screen time is not recommended. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged.

Not being restrained for more than 1 hour at a time (e.g., in a stroller or high chair) or sitting for extended periods. For those younger than 2 years, sedentary screen time is not recommended. For those aged 2 years, sedentary screen time should be no more than 1 hour—less is better. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged.

Not being restrained for more than 1 hour at a time (e.g., in a stroller or car seat) or sitting for extended periods. Sedentary screen time should be no more than 1 hour—less is better. When sedentary, engaging in pursuits such as reading and storytelling with a caregiver is encouraged.

# Sleep duration recommendations

## *Infants*

14-17 hours



## *Toddlers*

11-14 hours



## *Preschool*

11-13 hours



## *Children*

9-11 hours



## *Youth*

8-10 hours





Your sleep efficiency  
89%

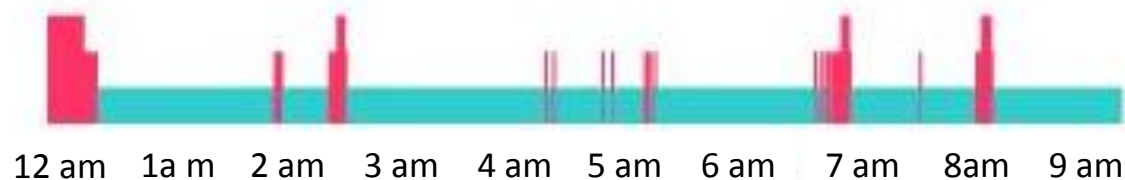
Your main sleep pattern



asleep



awake



You went to  
bed at

12:00 am

Time to fall  
asleep

27 min

Times  
awakened

14

You were in  
bed for

9 hrs 0 min

Actual sleep  
duration

8 hrs 0 min



# LARK VS OWL



**CONSISTENCY**  
**IS**



# We can intervene on sleep!

## GENERAL TIPS FOR HAVING HEALTHY SLEEP HYGIENE<sup>142</sup>



**Go to bed and wake up at the same time** every day (even on the weekends!)



**Don't go to bed feeling hungry**, but also don't eat a heavy meal right before bed



**Avoid caffeine consumption** (e.g., coffee, soft drinks, chocolate) starting in the late afternoon



**Develop a relaxing routine** before bedtime – ideas include bathing, music, and reading



**Expose yourself to bright light in the morning** – sunlight helps the biological clock to reset itself each day



**Reserve your bedroom for sleeping only** – keep cell phones, computers, televisions and video games out of your bedroom



**Make sure your bedroom is conducive to sleep** – it should be dark, quiet, comfortable, and cool



**Exercise regularly during the day**



**Sleep on a comfortable mattress and pillow**



**Don't have pets in your bedroom**

# Sedentary behaviour recommendations

Infants and toddlers  
0 minutes/day



Preschoolers  
 $\leq 1$  hour/day



School-aged kids  
 $\leq 2$  hours/day



**Infants, toddlers, and preschoolers  
should not be restrained for  
>1 hour at a time**

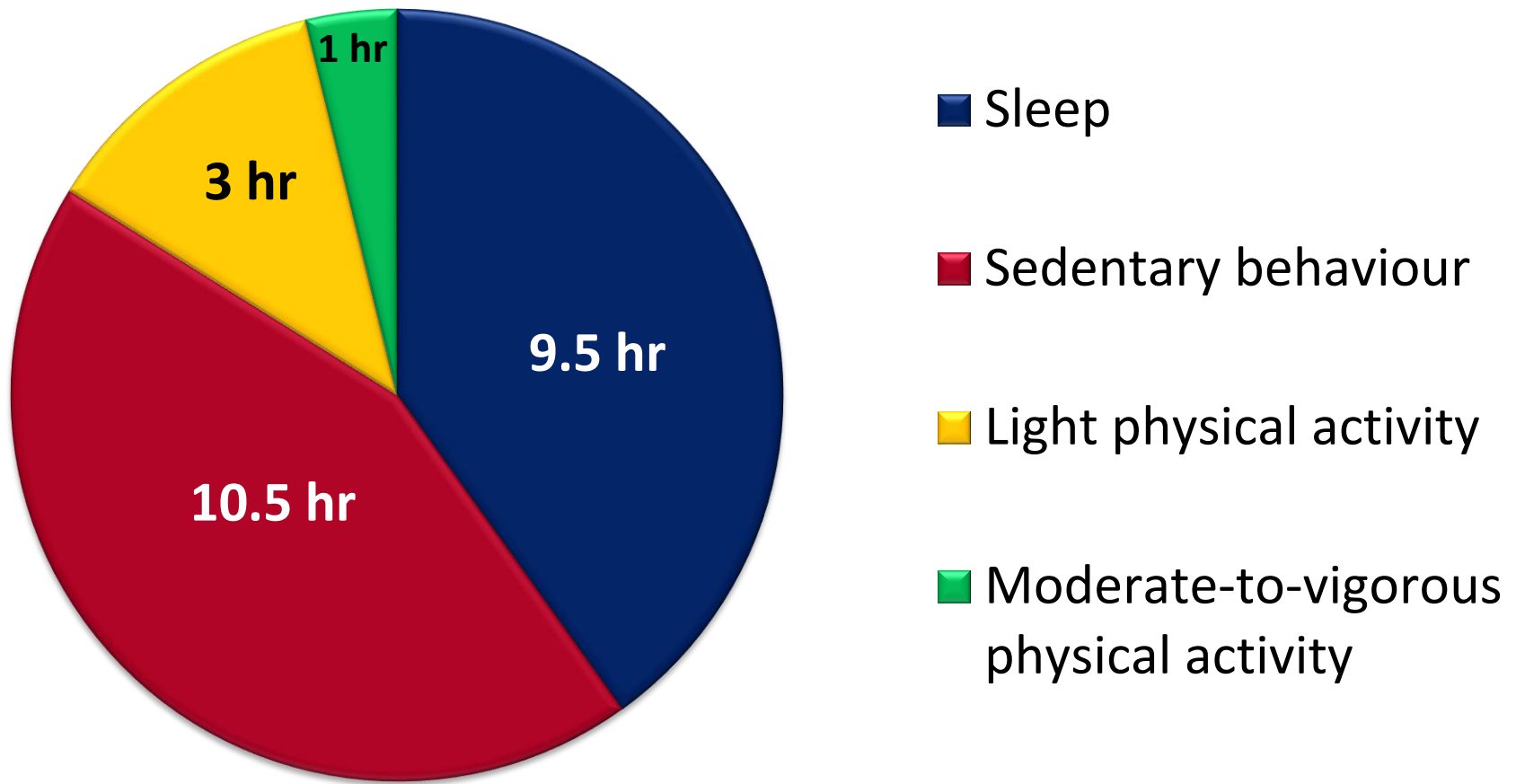




# Sedentary behaviour evidence is heavily based on T.V. time

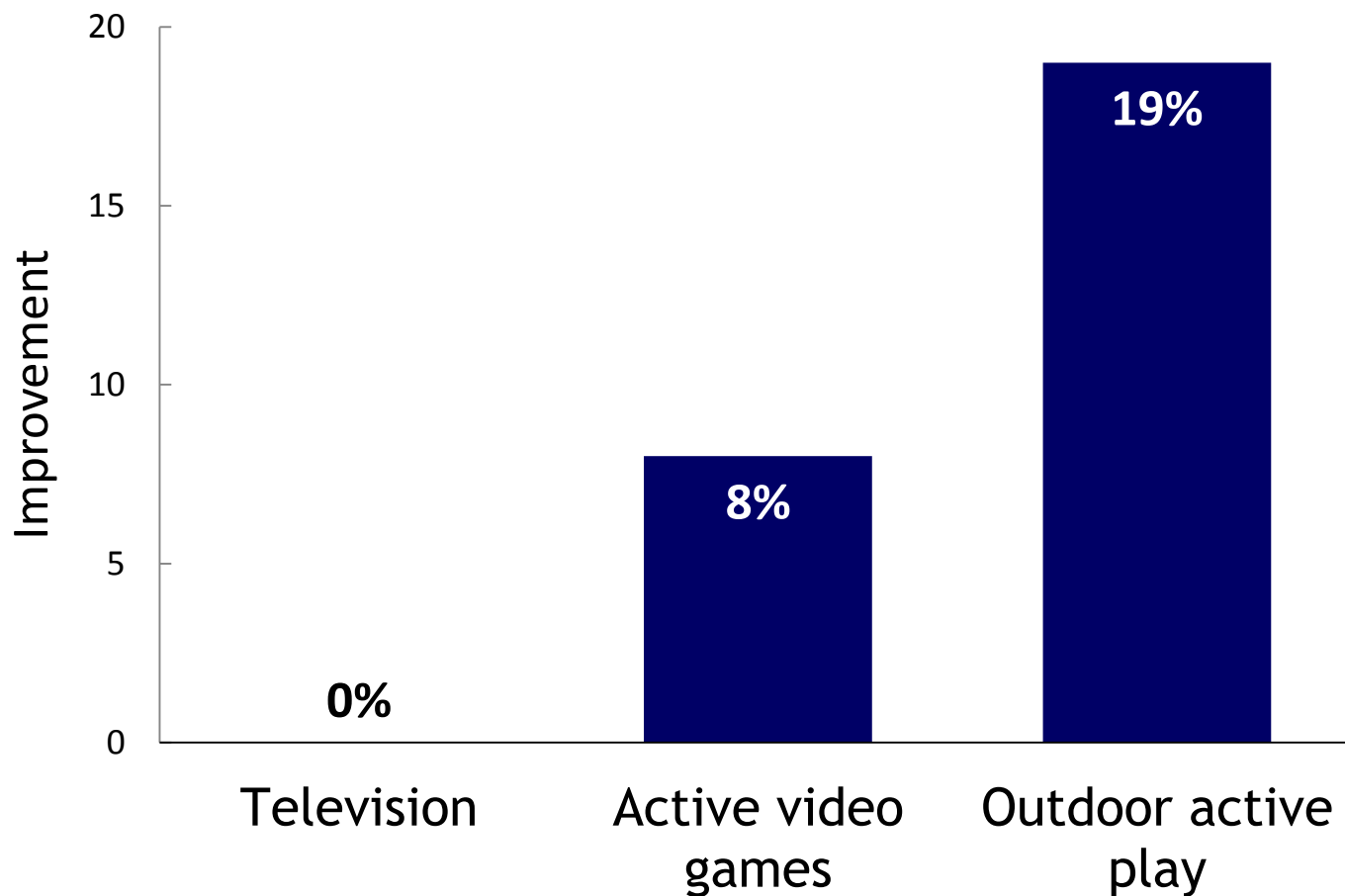


# Large reductions in sedentary behaviour will displace many movement behaviours





# Displacing 1 hour/day of sedentary video games influences life satisfaction



# Physical activity recommendations

## Infants

**Interactive floor based play and  
≥ 30 minutes/day of tummy time**





# Physical activity recommendations

## *Toddlers and preschoolers*

**≥ 180 minutes/day of activity of any intensity  
including energetic play (≥ 60 minutes/day for preschoolers)**



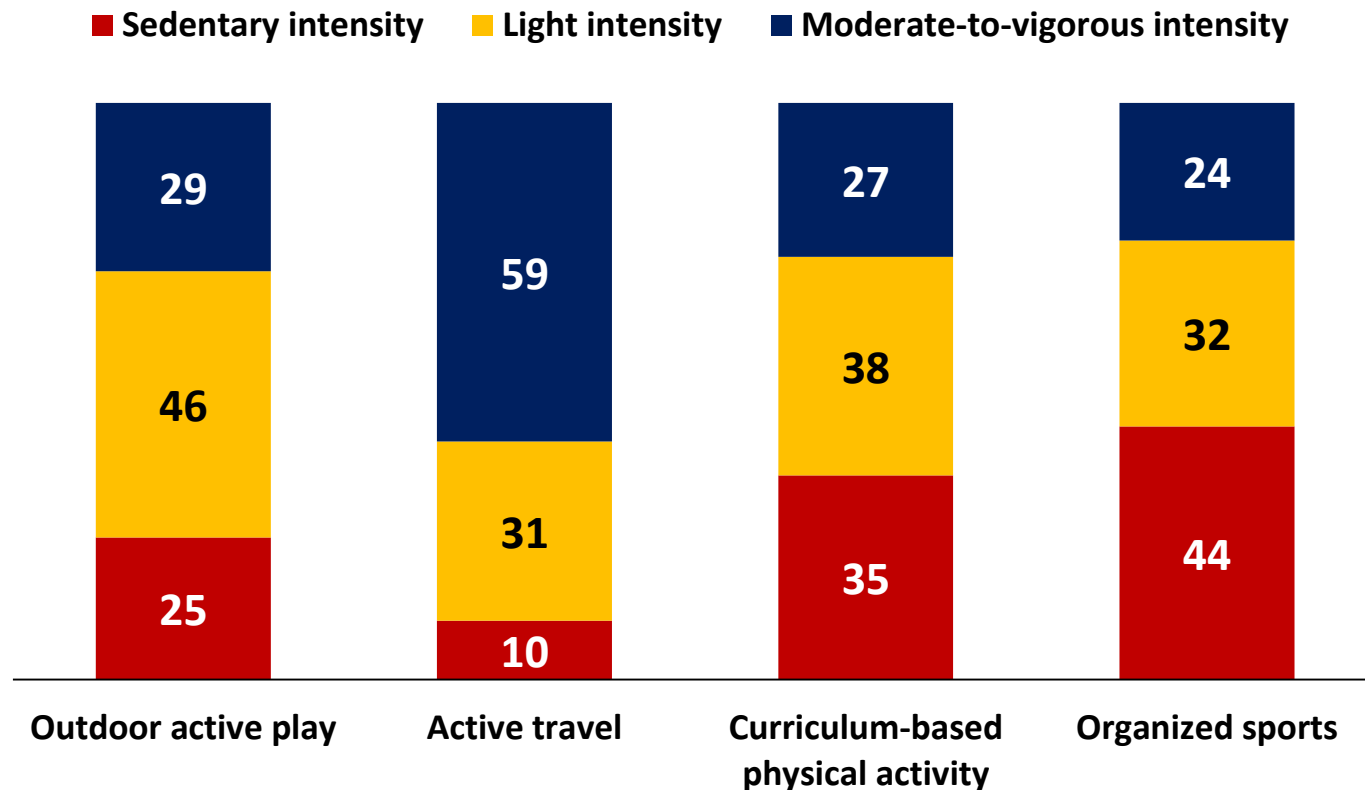
# Physical activity recommendations

*School-aged children and youth*

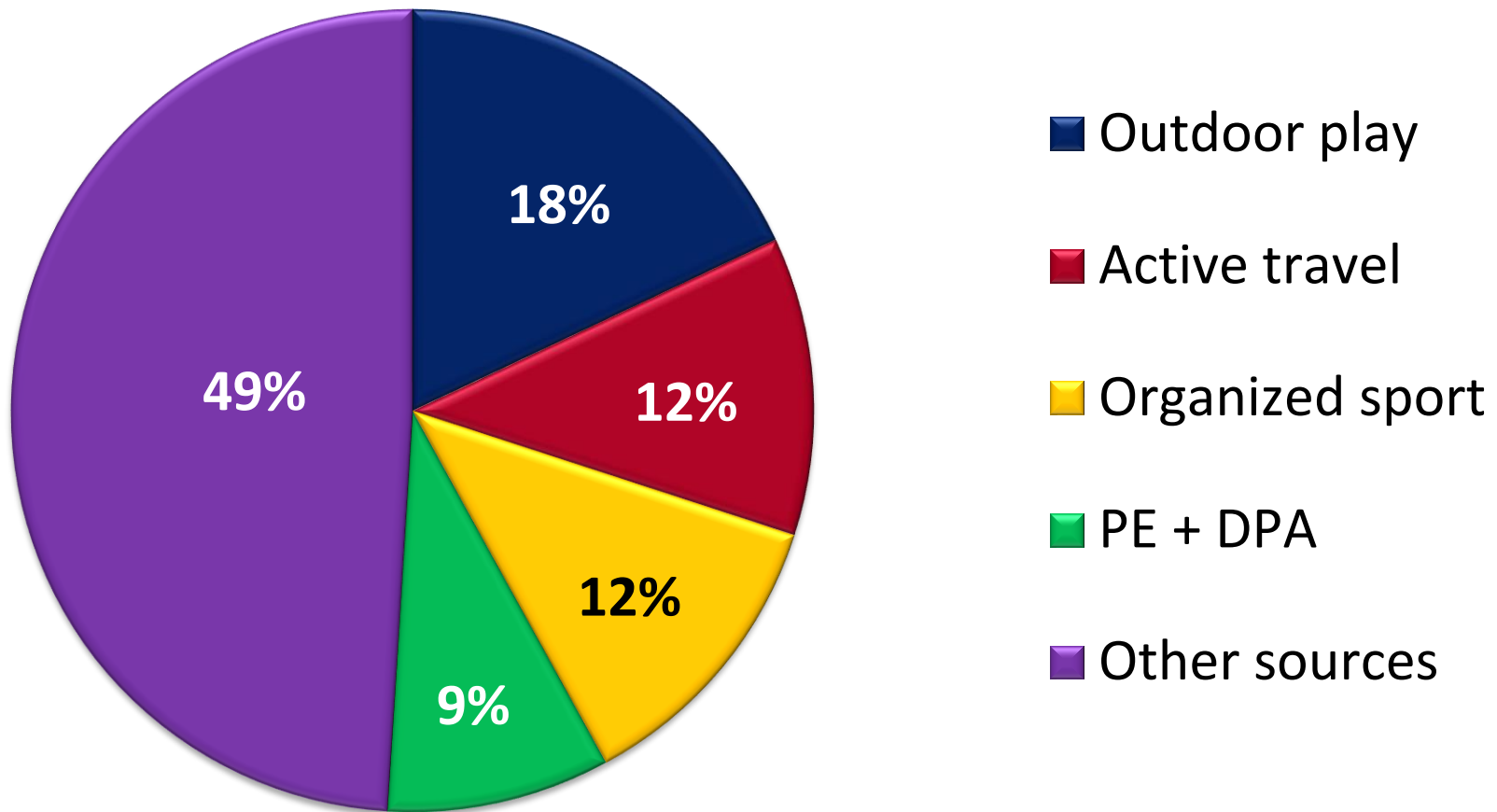
**≥ 60 minutes/day of moderate-to-vigorous activity**



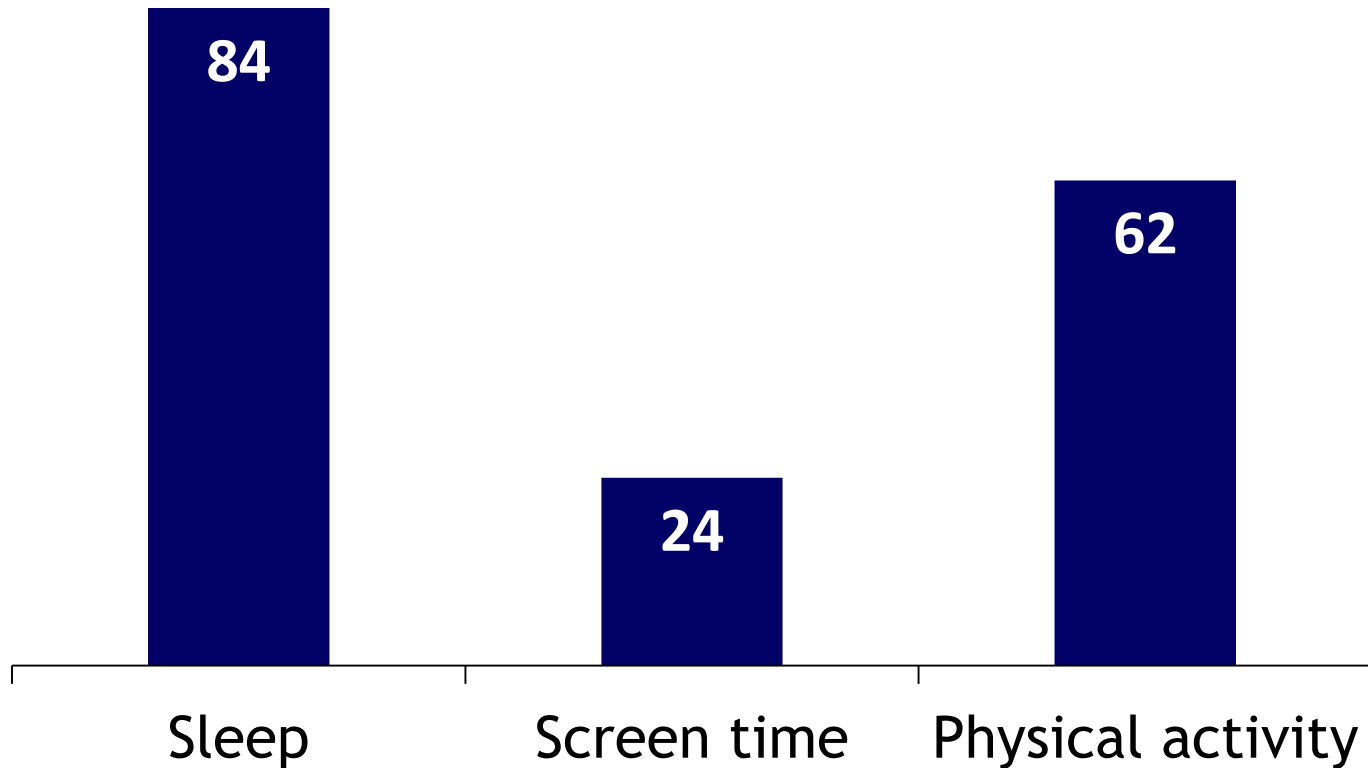
# It takes ~3 hours of activity time to accumulate 1 hour of moderate-to-vigorous physical activity



# Half of moderate-to-vigorous activity comes from other sources

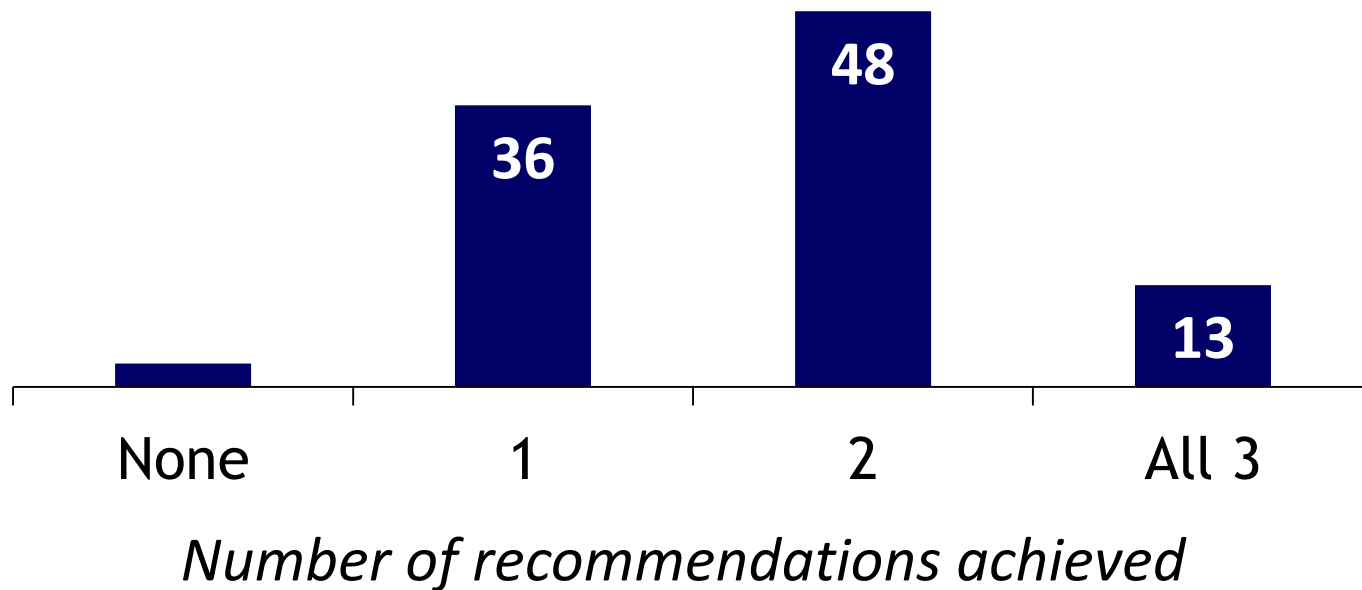


# Adherence to 24-Hour movement guidelines in preschool-aged children

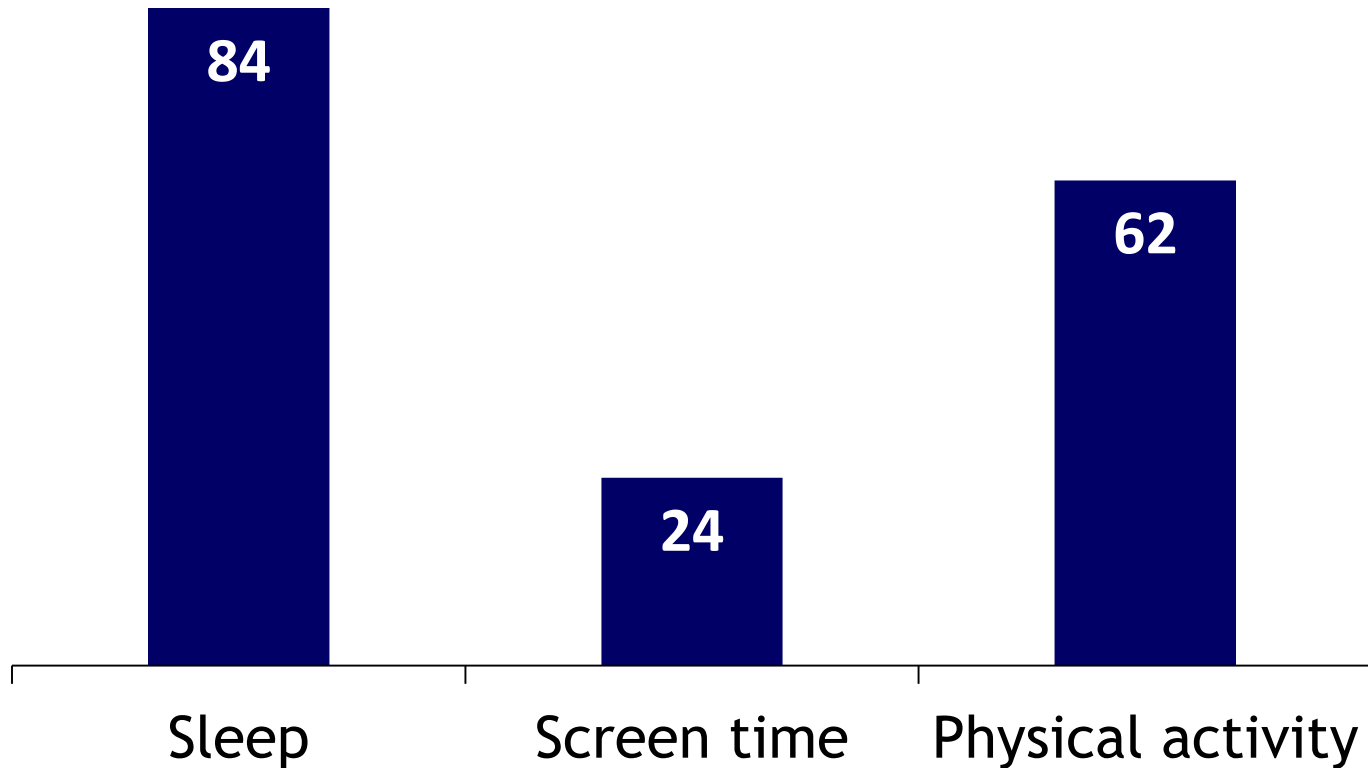




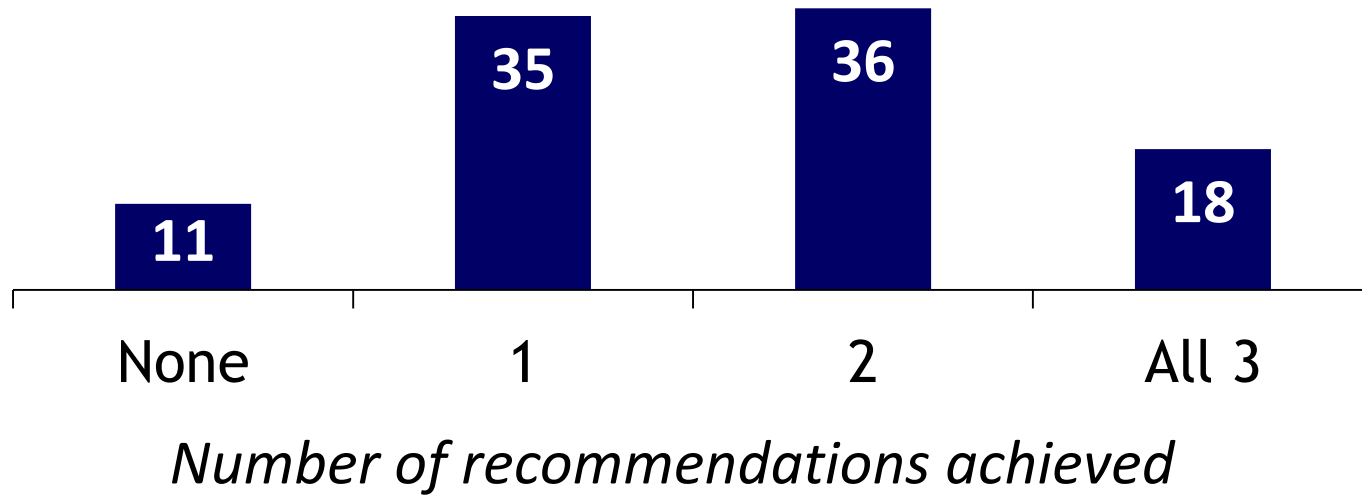
# Adherence to 24-hour movement guidelines in preschool-aged children



# Adherence to 24-hour movement guidelines in school-aged children and youth



# Adherence to 24-hour movement guidelines in school-aged children and youth



# 2016 ParticipACTION report card grades



## Overall Physical Activity **D-**

- Organized sport **B**
- School **B**
- Active transportation **D**
- Active play **D+**

## Sedentary Behaviours **F**

## Sleep **B**

# Concluding remarks

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# Concluding remarks





Thank you !!!

