

# Evaluation of Uptake and Impact of Physical Activity Guidelines for Preschool Children in Hong Kong

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Prof Chung Pak Kwong, *Hong Kong Baptist University*

**The participated children, parents, teachers, and project assistants.**



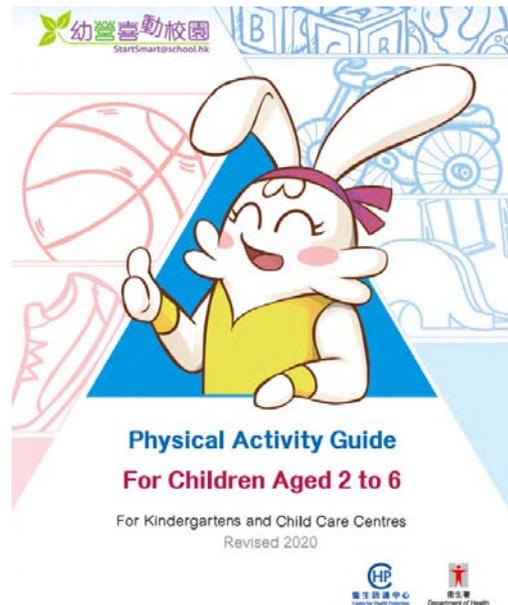
# Physical Activity Guidelines for Children Aged 2 to 6



Should spend at least **180 minutes** in variety of **physical activities (PA)** of different types and intensity levels, including at least 60 minutes of moderate- to vigorous-intensity PA spread throughout the day; more is better (3-6 years).



Have **no more than one hour** of sedentary **screen time (ST)**, e.g. watching TV or use a computer, tablet computer or smartphone; less is better (2-6 years)



Centre for Health Protection, Department of Health, HKSAR 2020

## Short-term attachment 8-24 November 2017

HALO, Children's Hospital of  
Eastern Ontario Research  
Institute

- ✓ The first 24-hour movement guidelines for the early years released
- ✓ Strengthen the skills in applying a systematic process for development and implementation of public health practice recommendations

### 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



SLEEP



SIT

#### MOVE

PRESCCHOOLERS (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

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 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.

# The research study aimed to examine:



Young children's compliance with the guidelines



Parents and teachers' awareness and knowledge of the guidelines



The associations of awareness and knowledge with beliefs, intention, and children's PA and sedentary behavior (health communication theory)



Barriers and facilitators to implementation/messages recommendations supplementing the guidelines through focus group interviews.



MVPA  
stepping



light  
stepping



standing

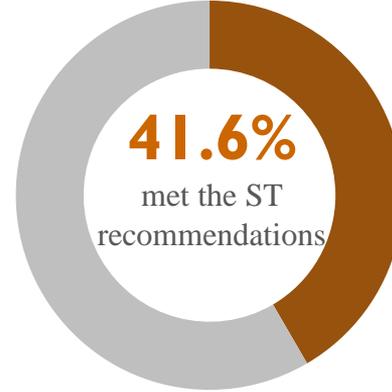


sitting

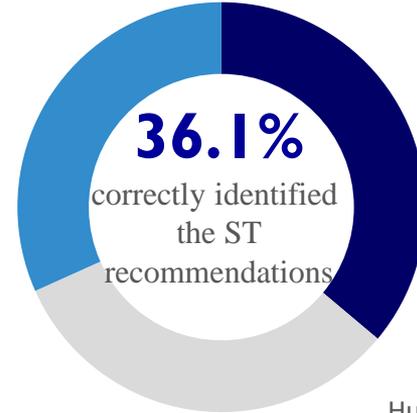




174 boys; 138 girls  
mean age=3.8 yrs



260 parents  
(81.3% mothers)  
mean age=36.8 yrs



- correctly identified
- overestimate
- underestimate
- don't know

Huang & Lee. IJERPH 2019



## Associations of awareness and knowledge with belief and intention of the guidelines

	Belief - PA guidelines		Belief - ST recommendation		Intention - PA guidelines		Intention - ST recommendations	
	Agree	Others	Agree	Others	Intend	Others	Intend	Others
<b>Awareness-familiar with the contents</b>								
Yes	84.7	15.3	89.0	11.0	62.2	37.8	69.5	30.5
No	71.3	28.7	78.2	21.8	48.0	52.0	59.7	40.3
X <sup>2</sup> (p)	5.905 (0.015)		3.991 (0.047)		11.937 (0.028)		2.062 (0.151)	
<b>Knowledge on PA guidelines</b>								
Aware	86.7	13.3						
Underestimate	79.8	20.2						
Don't know	52.4	47.6						
X <sup>2</sup> (p)	16.026 (0.000)							
<b>Knowledge on ST recommendations</b>								
Aware	--	--	86.7	13.3	--	--	68.0	32.0
Overestimate	--	--	68.7	31.3	--	--	53.7	46.3
Underestimate	--	--	92.4	7.6	--	--	71.2	28.8
X <sup>2</sup> (p)	--	--	14.417 (0.001)		--	--	5.088 (0.079)	

Parents who were familiar with the guidelines were more likely to hold positive **belief** of the PA and ST guidelines; had higher **intention** to adopt the PA guidelines.

PA, physical activity; ST, screen time



## Associations of awareness, knowledge, belief and intention with children's physical activity and sedentary time

	PA	Sedentary time	ST
<b>Awareness-heard about the guidelines (reference: yes)</b>	1.25 (0.99, 1.57)	0.43 (0.18, 1.03)	0.89 (0.67, 1.18)
<b>Awareness-familiarity of the guidelines (reference: yes)</b>	<b>1.09 (0.95, 1.24)</b>	1.17 (0.61, 2.28)	1.28 (0.94, 1.74)
<b>Knowledge (reference: yes)</b>			
No idea			
Underestimating			
<b>Knowledge (reference: yes)</b>			
Underestimating			
Overestimating			
<b>Belief (reference: yes)</b>	0.97 (0.82, 1.13)	1.12 (0.35, 3.59)	1.10 (0.65, 1.84)
<b>Intention (reference: yes)</b>	0.96 (0.82, 1.13)	<b>2.29 (1.13, 4.67)</b>	1.28 (0.92, 1.78)

Having parents not familiar with the guidelines → activPAL-determined PA↓;  
 Parents having no intention to adopt the recommended limit of screen use → children sat more;  
 Parents overestimating the recommended limit of screen use → children had more screen time.

PA, physical activity; ST, screen time



6 interviews among teachers  
3 interviews among parents

focus group interviews

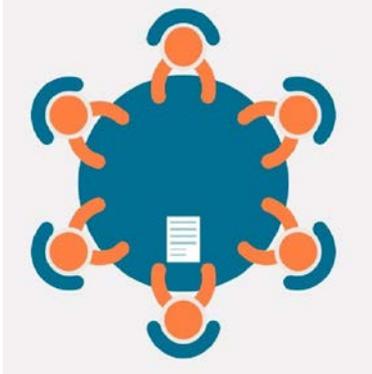


Photo source:

<https://medium.com/uxarmy/focus-groups-vs-one-on-one-interviews-when-and-why-9ad38ee16ef5>

- ✓ All teachers thought children were physically active most of the time in kindergartens.
- ✓ Teachers perceived various barriers for implementing the guidelines, e.g. space, programmes design, safety issue, limited facilities.
- ✓ Parents indicated that the device-assessed PA was similar to their own estimation.
- ✓ Lack of time was the major concern for parents. Household chores was the most daily tasks being discussed as a barrier.

- Supportive for the contents of the guidelines
- Multitude ways to communicate the guidelines, e.g. social media, messaging (WhatsApp), leaflets and brochures, advertisements on TV, promotion events and workshops
- Importance of school-family cooperation
- Informative and concise message, e.g. animated infographic, short videos, cartoons

## Take Home Messages

- Compliance with the PA guidelines is low for preschool children in Hong Kong.
- There is a lack of awareness and adequate knowledge of the guidelines among parents.
- The guidelines should be supplemented with clear messages catering for local needs and to ensure that precursors to behavior change could be motivated.
- Certain segments of the populations should be targeted in future health promotion.
- Increasing stakeholders' awareness and knowledge of the guidelines may be helpful to enhancing belief and intention of adopting the guidelines.

# Thank You!

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