



# Territory-wide Physical Fitness Survey for the Community Key Findings



Commissioned by Community Sports Committee of the Sports Commission  
Co-ordinated by Leisure and Cultural Services Department

## Territory-wide Physical Fitness Survey for the Community



### Introduction

A healthy lifestyle (including regular and appropriate amount of exercise and balanced diet) is conducive to enhancing physical fitness, and good physical fitness improves the quality of life. In order to let more people understand the importance of sport to health and cultivate a sports-loving culture in the community, the Leisure and Cultural Services Department (LCSD) launched the Physical Fitness Test for the Community in 2005-06 and 2011-12 respectively. Conducted under the supervision of the Advisory Committee on the Physical Fitness Test for the Community (AC) of the Community Sports Committee (CSC), the test collected comprehensive data on the physical fitness conditions of the public and a report was released. To collect more information for the setting up of a database on the physical fitness of the public, the LCSD conducted the Territory-wide Physical Fitness Survey for the Community (the Survey) in 2021. It was hoped that studying the relationship between the pattern of physical exercise and the physical fitness of the people of Hong Kong would assist the Government in formulating long-term objectives of and policies on "Sport for All" and identifying priority areas for improvement to enhance the overall physical fitness of the community.

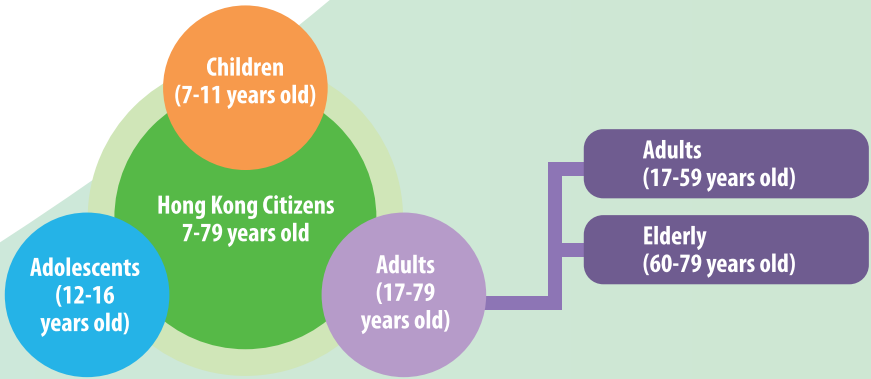
### Objectives

1. To enable the individuals participating in the Survey to have a general understanding of their own physical fitness condition;
2. To set up a database of the physical fitness of Hong Kong people and compare the data with those collected in 2011-12 in order to understand how the physical fitness of the public has changed over time;
3. To identify the relationship between the pattern of physical exercise and the physical fitness of Hong Kong people; and
4. To identify priority areas for improvement so as to enhance the overall physical fitness of the public.



## Target

The survey covered 8 500 Hong Kong citizens aged between 7 and 79, who were divided into 6 age groups (aged 7-11, 12-16, 17-19, 20-39, 40-59, and 60-79). The sample size required for each age group in the Survey was calculated by the method of proportional allocation in accordance with the population proportion in Hong Kong as published in the 2021 Population Census by the Census and Statistics Department, after deducting the population aged between 0 and 6 and 80 over.



## Data Collected

**Data collection period:** July 2021 - December 2022

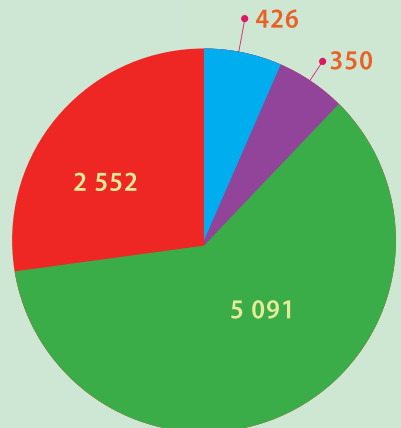
**Test sessions:** 124

**Number of target:** 8 500

**Number of samples collected:** 9 326

**Number of valid samples:** 8 419

- Children (7-11 years old)
- Adolescents (12-16 years old)
- Adults (17-59 years old)
- Elderly (60-79 years old)



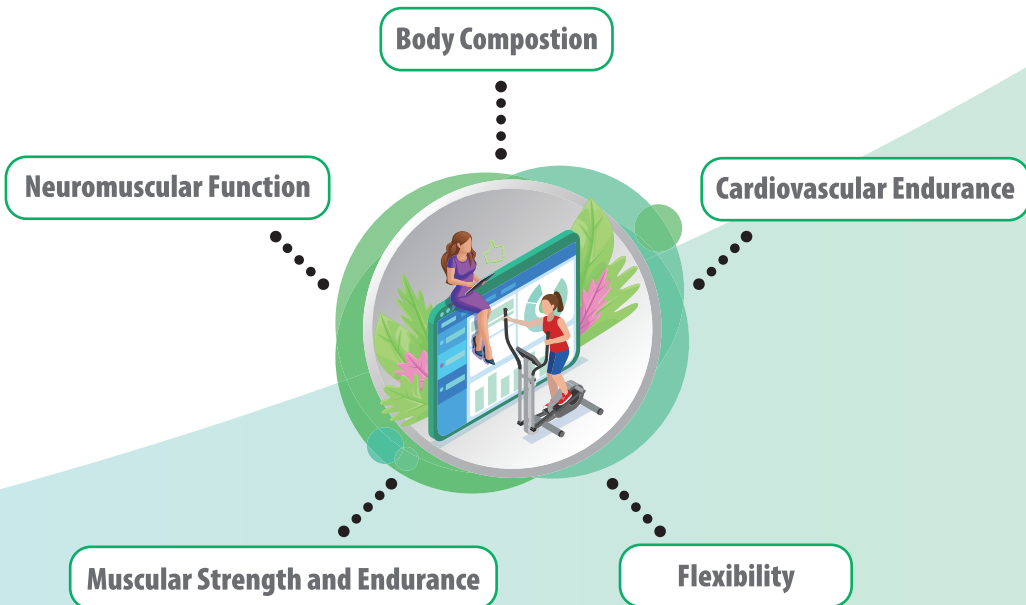
## Survey Content Part 1: Questionnaire

Different questionnaires were designed for participants of different age groups, covering lifestyle and exercise habits.



## Survey Content Part 2: Physical fitness test

Participants in different age groups underwent physical fitness test with different test items. All test items were designed based on various physical fitness conditions to test the physical fitness levels of participants.







## Physical fitness test items

	Item	Ages Group			
		Ages 7-11	Ages 12-16	Ages 17-59	Ages 60-79
<b>Body Composition</b>	Height	●	●	●	●
	Weight	●	●	●	●
	Skinfold Measurement - Triceps	●	●		
	Skinfold Measurement -Calf	●	●		
	Bioelectrical Impedance Analysis	● Fat%	● Fat%	● Fat% ● Muscle	● Fat% ● Muscle
	Waist Circumference			●	●
	Resting Blood Pressure/Heart Rate			●	●
<b>Cardiovascular Endurance</b>	3-minute Step Test			●	● 2 minute
	15-metre PACER	●	●		
	9-minute Endurance Run & Walk		●		
<b>Flexibility</b>	Sit-and-reach	●	●	●	● Chair
	Back Scratch				●
<b>Muscular Endurance</b>	Handgrip	●		●	●
	Arm curl				●
	1-minute Sit-up	●	●	●	
	Push-up		●		
	Plank			●	
	Standing Long Jump	●	●		
	Chair Stand				●
Vertical Jump			●		
<b>Muscle Connections</b>	8-foot Up and Go				●
	Single Leg Stance Test			● (Eyes closed)	● (Eyes open)
Total test items		10	11	12	13

## Summary of Survey Findings

### Children (7-11 years old)

#### ► Physical Fitness Performance

The analysis comprised data of 225 boys and 201 girls. The average physical fitness performances of children are as follows:

Physical Fitness Performance	Test Item	Boys		Girls	
		2012	2022	2012	2022
Cardiorespiratory Endurance	15-metre PACER (lap)	16.6	21.1 😊	14.9	18.1 😊
Muscular Strength	Handgrip (kg)	27.9	32.1 😊	26.8	26.5
Muscular Endurance	1-minute Sit-up (rep)	19.5	16.4 😞	18.7	15.2 😞
Muscular Power	Standing Long Jump (cm)	124.7	117 😞	112.6	111.1

#### ► Prevalence of Overweight and Obesity

33.0% of the children were identified as either overweight or obese, as defined by the Child Growth Standards of the World Health Organization (WHO)<sup>1</sup>.

Body mass index (BMI) classification according to the WHO Child Growth Standards	Boys(%)	Girls(%)	Total(%)
Severe Thinness	0	0	0
Thinness	2.8	2.1	2.4
Normal	58.4	71.2	64.5
Overweight	19.6	20.0	<b>19.8</b>
Obesity	19.2	6.7	<b>13.2</b>

<sup>1</sup> The WHO Child Growth Standards (BMI for age-gender):

Overweight is defined as BMI-for-age greater than 1 standard deviation from the WHO Growth Reference median.

Obesity is defined as BMI-for-age greater than 2 standard deviations above the WHO Growth Reference median.



18.2% of the children were identified as either overweight or obese according to the Hong Kong Weight-for-height Growth Chart.<sup>2</sup>

Hong Kong Weight-for-height Growth Chart classification	Boys(%)	Girls(%)	Total(%)
Normal and underweight	75.4	89.0	81.8
Overweight (including obesity)	24.6	11.0	<b>18.2</b>

The average skinfold of both boys and girls dropped slightly compared with the data of 2012.

Test Item	Boys		Girls	
	2012	2022	2012	2022
Skinfold (mm)	25.3	22.9 😊	26.1	22.6 😊

<sup>2</sup> Hong Kong Weight-for-height Growth Chart: Overweight (including obesity) is defined as body weight >120% of the median weight-for-height for boys with height between 55 to 175 cm and girls with height between 55 to 165 cm.

► Physical Activity (PA) Level



The PA level of **66.3%** of the children did not meet the WHO recommendation

(i.e. an average of at least 60 minutes per day of moderate-to-vigorous physical activity (MVPA) across the week).

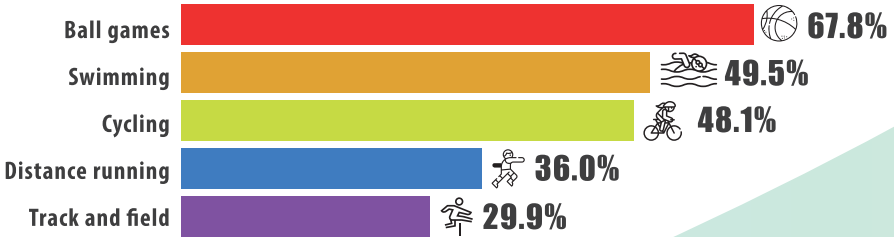
Only **15.7%** of the children perceived that they did not do enough PA.



The results suggest a **significant discrepancy** between the actual and perceived PA sufficiency among the children.

► Favourite Sports

• Top 5 favourite sports for boys:



• Top 5 favourite sports for girls:





## ► Major Barriers to PA Participation

1



**Bad weather (60.4%)**

2



**Busy with homework (40.8%)**

3



**Tiredness (34.7%)**

## ► Further Analysis

- **Parent involvement was an important factor influencing the PA participation of children.** The report showed that children of fathers who exercised 3 times or more per week increased MVPA by 121 minutes per week compared with those whose fathers did not exercise, and children of mothers who exercised 3 times or more per week increased MVPA by 95 minutes per week compared with those whose mothers did not exercise.
- Boys who met the WHO PA recommendation had better cardiovascular and muscular fitness compared with those who did not meet the WHO PA recommendation. This shows a positive association between doing more PA and having good physical fitness.
- Boys performed significantly better in 15-metre PACER test and standing long jump than girls, while girls had significantly greater sit-and-reach performance compared with boys. Furthermore, body fatness parameters (i.e., total body fat and total skinfold) were negatively correlated with the performance of 15-metre PACER test and handgrip strength, while 15-metre PACER performance was positively correlated with muscular fitness (i.e., handgrip strength, 1-minute sit-up, and standing long jump) for both genders. For boys, body fatness parameters (i.e., total body fat and total skinfold) were negatively correlated with the performance of 1-minute sit-up and standing long jump.

## Adolescents (12-16 years old)

### ► Physical Fitness Performance

Overall, there were 180 boys and 170 girls included in the analysis. Their average physical fitness performances were as follows:

Physical Fitness Performance	Test Item	Boys		Girls	
		2012	2022	2012	2022
Cardiorespiratory Endurance	15-metre PACER (laps)	38.1	46.7 😊	21.8	27.1 😊
Flexibility	Sit-and-reach (cm)	22.6	23.1 😊	29.9	31.1 😊
Muscular Strength	Push-up (rep)	9.5	11.2 😊	6.2	9.5 😊
Muscular Power	Standing Long Jump (cm)	169.4	167.7	131.3	131.9

### ► Prevalence of Overweight and Obesity

27.7% of adolescents were identified as either overweight or obese, as defined by the WHO Child Growth Standards.

BMI classification according to the WHO Child Growth Standards	Boys(%)	Girls(%)	Total(%)
Severe Thinness	1.7	0	0.9
Thinness	5.6	2.9	4.3
Normal	60.0	74.7	67.1
Overweight	18.3	15.9	<b>17.1</b>
Obesity	14.4	6.5	<b>10.6</b>



23.2% of adolescents were identified as either overweight or obese according to the Hong Kong Weight-for-height Growth Chart.

Hong Kong Weight-for-height Growth Chart classification	Boys(%)	Girls(%)	Total(%)
Normal and underweight	74.2	79.6	76.8
Overweight (including obesity)	25.8	20.4	23.2

The average skinfold of both boys and girls increased compared with the data of 2012.

Test Item	Boys		Girls	
	2012	2022	2012	2022
Skinfold (mm)	21.88	27.3 😊	28.95	33.9 😊

► PA Level



The PA levels of

**50.7%** of adolescents did not meet the WHO recommendation.

(i.e. an average of at least 60 minutes per day of MVPA across the week).

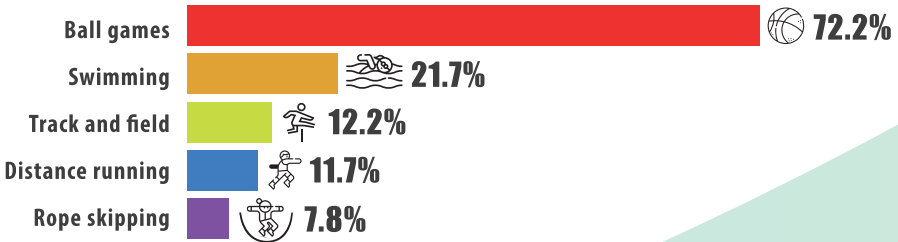
Only **34.4%** of the adolescents perceived that they did not do enough PA.



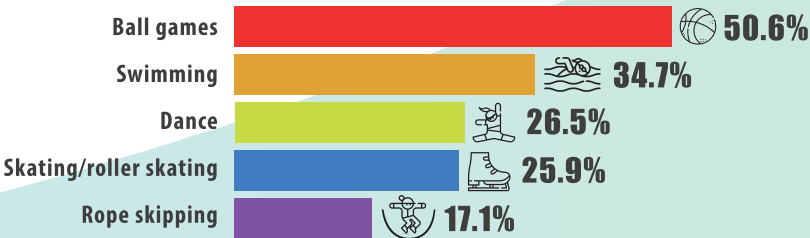
The results suggest a **discrepancy** between the actual and perceived PA sufficiency among the adolescents.

► Favourite Sports

• Top 5 favourite sports for boys:



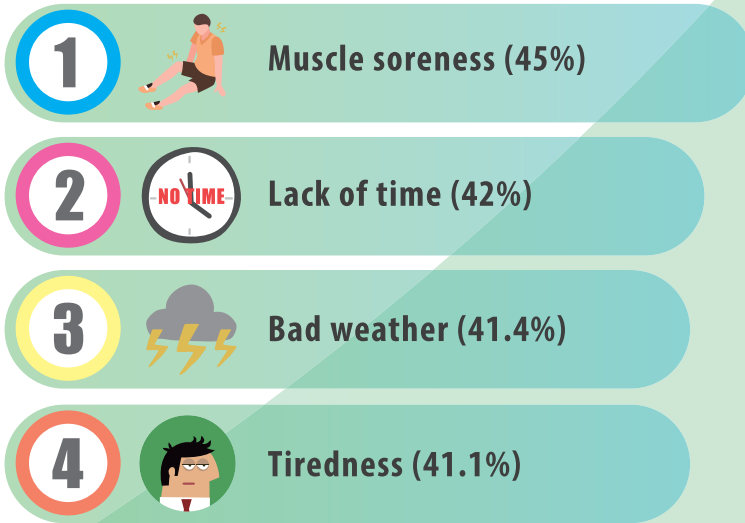
• Top 5 favourite sports for girls:







## ► Major Barriers to PA Participation



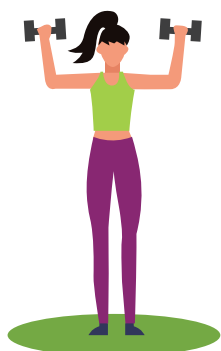
## ► Further Analysis

- **Compared with adolescents who used electronic screens for less than 2 hours a day, girls who used electronic screens for more than 2 hours had higher body fat content and boys had lower cardiorespiratory endurance.**
- Boys who did sufficient PA to meet the WHO recommended level performed significantly better in push-up. In contrast, girls who did sufficient PA to meet the WHO recommended level had significantly greater performance in 15-metre PACER, 9-minute run/walk test and standing long jump.
- For boys, body adiposity was negatively correlated with cardiovascular fitness and all muscular fitness parameters, while cardiovascular fitness was positively correlated with lower body flexibility and all muscular fitness parameters. For girls, body adiposity was negatively correlated with cardiovascular fitness and muscular power, while cardiovascular fitness was positively correlated with lower body flexibility and all muscular fitness parameters. Furthermore, boys performed significantly better in 15-metre PACER, 9-minute run/walk, 1-minute sit-up and standing long jump. On the other hand, girls had significantly greater sit-and-reach performance compared with boys.

## Adults (17-59 years old) and the Elderly (60-79 years old)

### ► Physical Fitness Performance

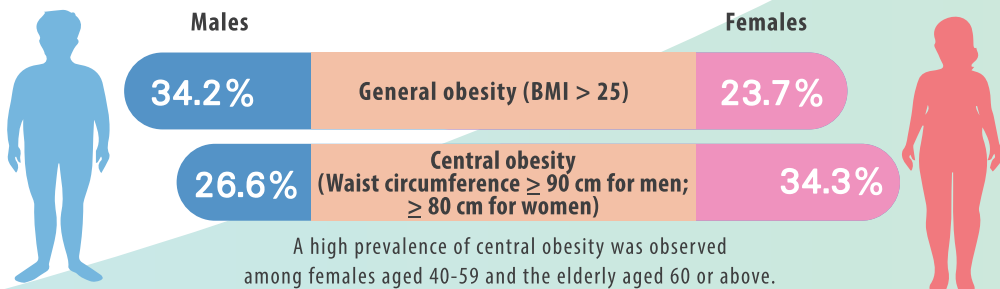
Overall, there were 2 970 male and 4 673 female adults and elderly persons included in the analysis. Compared with the results of 2012:



Cardiovascular endurance ↑  
 Muscular strength ↑  
 Muscular endurance ↑  
 Muscular power ↑  
 Balance ↓



### ► Prevalence of Obesity and Central Obesity



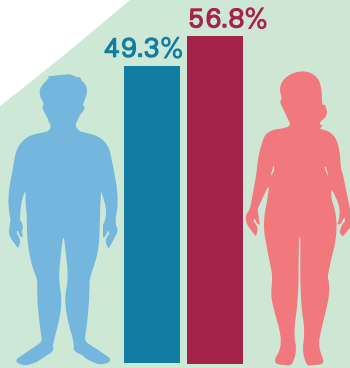


## ► Prevalence of Hypertension

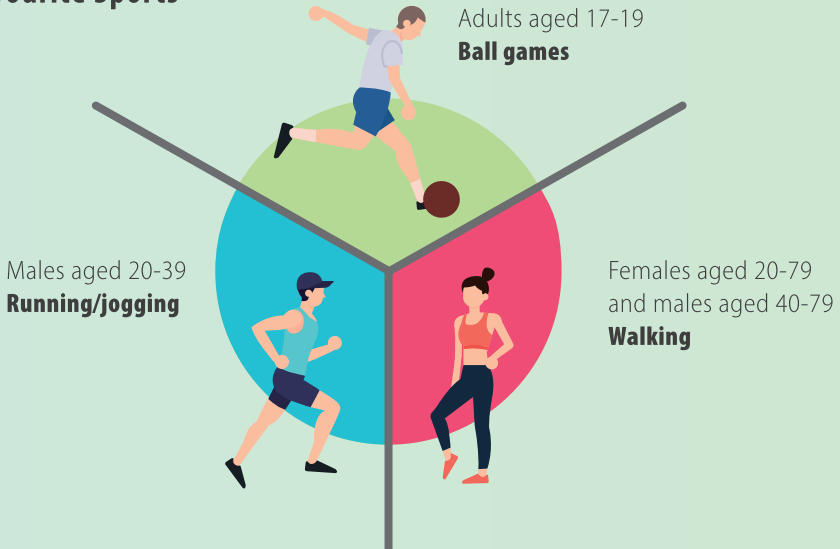
Overall, 31.0% of males and 22.4% of females had hypertension (systolic blood pressure  $\geq$  140 mmHg, diastolic blood pressure  $\geq$  90 mmHg). A high prevalence of hypertension was observed among the elderly aged 60 or above.

## ► PA Level

Overall, the PA level of 53.8% of adults and elderly persons did not meet the WHO recommendation (i.e.  $\geq$  150 minutes of MVPA per week). Physical inactivity rate for males and females were as follows:



## ► Favourite Sports



► Major Barriers to PA Participation



Males (56.27%)  
and  
females (53.13%) aged  
17-59  
**Lack of time**



Females  
aged 17-59  
(54.07%)  
**Laziness**



Males  
(53.77%)  
and  
females (51.27%)  
aged 17-59  
**Tiredness**



The elderly  
aged 60-79  
(39.68%)  
**Bad weather**



## ► Further Analysis

- **Physical inactivity was associated with poorer body composition, cardiorespiratory endurance and poorer flexibility and muscular endurance.**
- Males have significant greater body composition, cardiovascular fitness, upper body flexibility, all muscular fitness parameters, and agility, while females have better lower body flexibility. Moreover, females have less BMI and waist circumference. Younger adults have better physical fitness than those with older age.
- “Health strengthening/prevention or cure of sickness” was regarded as the key purpose by over half of the males from all the age groups and most of females aged 20-79. Furthermore, “Raising ability in sports” was selected by more than half of the males aged 17-59. Over half of females aged 17-39 who regarded “keeping fit” as the primary purpose. For the females aged 20-39, “releasing pressure and emotion” was further recognized by 52.7% of them.





Enquiries about the key findings can be directed to:

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