

Non-Communicable Diseases Watch

February 2018



衛生防護中心
Centre for Health Protection



衛生署
Department of Health

Active Kids Fare Better in School

Key Messages

- ※ Multiple health benefits accrue when children and adolescents participate in sufficient level of physical activity every day.
- ※ Researches show a positive association between children playing sport or being physically active and their ability to get better marks at school. Compared with their sedentary peers, active adolescents were 20% more likely to earn an “A” in mathematics or English.
- ※ Children and adolescents involved in sport were more assertive and psychologically resilient, had better social skills, higher social competence and psychosocial functioning compared with those not involved in sport.
- ※ The ‘Overall Physical Activity Level’ among children and youth in Hong Kong was poor. While ‘Family Support’ was barely satisfactory with around 30% of children and youth engaged in physical activity with the family at least once per week, only 28% of secondary schools had a documented physical activity policy.
- ※ Schools, parents and carers should be aware that active kids are healthy kids in many ways. A sufficient level of physical activity is not only vital for children’s physical growth and development, but also for their cognition and learning.
- ※ Healthy children and youth aged 5-17 years without any contraindication to physical activity should get at least 60 minutes of moderate to vigorous intensity physical activity every day. Preschool children should accumulate at least 180 minutes (i.e. 3 hours) of physical activity daily which consist of different types and intensity level of free play spreading over the day.
- ※ For detailed physical activity guidelines or more tips on activating children and adolescents, please visit the “Change for Health” website <http://www.change4health.gov.hk/>.

Active Kids Fare Better in School

For children and adolescents, physical activity includes play, games, sports, transportation (e.g. walking or cycling), recreation, physical education or planned exercise, in the context of family, school, and community activities. There is conclusive evidence that multiple health benefits accrue when children and adolescents participate in at least 60 minutes of moderate- or vigorous-intensity aerobic physical activity every day. Compared with inactive children and adolescents, those who are physically active have higher levels of cardio-respiratory fitness, greater muscular endurance and strength, healthier body fat composition, better metabolic control, improved self-esteem or higher confidence, and reduced symptoms of anxiety and depression.¹ Beyond these known health benefits, research also shows a positive association between children playing sport or being physically active and their ability to get better marks at school.²

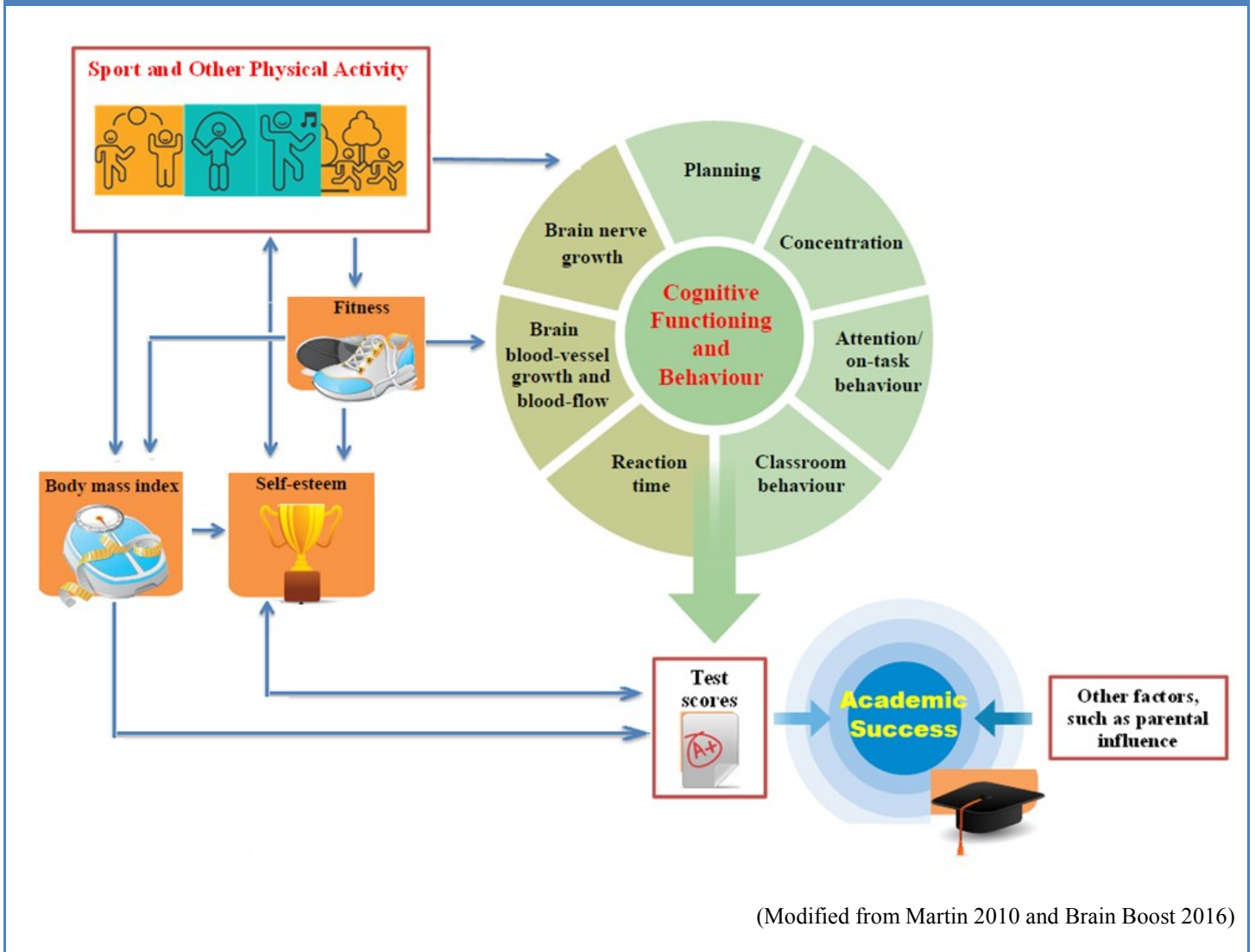
Pathways Linking Sport and Physical Activity, Cognitive Functioning and Academic Success

As shown in Figure 1, sport and physical activity can have both immediate and long-term benefits on children and adolescents' academic performance through direct or indirect physiological, cognitive, behavioural or psychological mechanisms.^{3, 4} Physical movement would shape the brain's physiology by increasing cerebral blood-vessel growth and blood flow, as well as enhancing neurogenesis and synaptic plasticity (e.g. in the cortex where it dictates different cognitive functions and behaviours; the hippocampus which is the center of learning and memory). These changes in brain structures and functions can maximise learning outcomes and academic success. Almost

immediately after engaging in physical activity, research has shown that school children are more likely to exhibit appropriate behaviours in the classroom and are better able to concentrate on classroom tasks. As children engage in developmentally appropriate physical activity over time, their improved physical fitness and healthier mind exert additional positive effects on academic performance, especially in the subjects which require thinking abilities and working memory like mathematics and reading.^{2, 5} A study of nearly 12 000 adolescents in the United States showed that active adolescents were 20% more likely to earn an "A" in mathematics or English compared with their sedentary peers.⁶

There is also substantive evidence of many different psychological and social health benefits of sport participation by children and adolescents, with the most common being improved self-esteem and social interaction.⁷ Positive self-esteem is a determinant of study motivation, persistence, and academic success. Through sport participation, children and adolescents can enhance their self-esteem or self-confidence by having a positive body image and the physical abilities and skills that they develop.^{3, 4, 7} Compared with children and adolescents not involved in sport, those involved in sport were more assertive and psychologically resilient, had better social skills, higher social competence and psychosocial functioning.⁷

Figure 1: Pathways linking sport and physical activity, cognitive functioning and academic success



Status of Physical Activity Behaviours and Related Supports

Unfortunately, the importance of providing sufficient physical activity opportunities for children and adolescents is very often overlooked or undervalued. Traditionally, physical education in school has a primary role in promoting physical activity and sport participation. With growing pressure on schools to ensure students' test scores, physical education classes are increasingly being pushed down the curriculum priority list.^{2,3} While recess is a necessary break during school day that provides school children with opportunities for physical activity or active play, some schools cut back recess time in order to free up more time for academic pursuits.^{2,8}

Moreover, some schools limit students from more intensive physical activity for fear that they may sustain injury. After school, active playtime and opportunities for children and adolescents to participate in extra-curricular physical activities have also markedly decreased due to jam-packed schedule with 'extra' tutoring, inadequate or limited access to play spaces, prevalent use of electronic screen products for recreation, or other factors.^{9,10}

As the World Health Organization estimates, more than 80% of the world's adolescents are insufficiently physically active.¹¹ Using a grading framework (from *A* = excellent to *F* = failing) on nine international indicators related to physical activity behaviours and sources of influence, a systematic analysis showed that the 'Overall Physical Activity Level' among children and youth in Hong Kong was poor, i.e. *D* grade with less than half of the children and youth meeting the daily recommended physical

activity (Table 1). 'Family Support' was barely satisfactory (*D* grade) with around 30% of children and youth engaged in physical activity with the family at least once per week. Although both 'Active Transportation' and 'Community and the Built Environment' were regarded good (*B* grade), an average grade of *C* was assigned to the indicator of 'School' as only 28% of secondary schools had a documented physical activity policy.^{12, 13}

Table 1: 2016 Hong Kong Report Card on Physical Activity for Children and Youth^{12, 13}

Indicator	Key Findings	Grade*
Overall Physical Activity Level	<ul style="list-style-type: none"> Less than half of the children and youth met the international recommendation of doing one hour of moderate- to vigorous-intensity physical activity per day 	<i>D</i>
Organised Sport Participation [#]	<ul style="list-style-type: none"> 41% of the boys and 30% of the girls (11-18 years) participated in exercise class other than physical education outside school About half of youth took part in leisure time sports at least once per week. The percentage was lower in girls than in boys 	<i>C-</i>
Active Play	<ul style="list-style-type: none"> No specific measure available 	<i>INC</i>
Active Transportation	<ul style="list-style-type: none"> Almost 80% of children and youth travelled to school on foot or by bicycle at least once per week 	<i>B</i>
Sedentary Behaviours	<ul style="list-style-type: none"> Around half of the children and youth spent less than 2 hours per day in electronic screen devices 	<i>C</i>
Family Support	<ul style="list-style-type: none"> 37% of the children and 23% of the adolescents had family physical activity together for at least once per week 	<i>D</i>
School – physical education, physical activity related policy, and programmes	<ul style="list-style-type: none"> Almost 80% of primary schools had physical education class of 70-120 minutes per week, but the actual length of the lessons was 22% shorter than scheduled one for secondary school 70% of the school had a physical activity related policy (28% with documented policy; 42% with undocumented policy) A majority of schools had held a sports day event or inter-school sports competition, but the number of actual participants in these events was unknown 	<i>C</i>
Community and the Built Environment	<ul style="list-style-type: none"> Almost 80% of the parents felt the community is safe with low traffic and crime rate A majority of youth expressed satisfaction with the sport facilities provided by the government 	<i>B</i>
Government Strategies and investments	<ul style="list-style-type: none"> Lack of a definite benchmark 	<i>INC</i>

Notes : **INC* = Incomplete data. [#]The indicator 'Organized Sport Participation' can only be applied to adolescents and graded *C-* due to an apparent lower participation in girls than in boys.

Let Children and Adolescents Move

Healthy children and youth aged 5-17 years without any contraindication to physical activity should get at least 60 minutes of moderate to vigorous intensity physical activity every day, while performing more than 60 minutes of physical activity daily provides additional health benefits.¹ Preschool children should accumulate at least 180 minutes (i.e. 3 hours) of physical activity daily which consist of different types and intensity level of free play spreading over the day.¹⁴ Children and youth with disabilities should avoid being inactive. They can seek medical advice to engage in appropriate activities and meet the physical activity recommendation for their age groups.

Schools serve as an excellent setting to provide children with the opportunity for daily physical activity, to teach the importance of regular sport participation for health, and to build skills that support an active lifestyle. Evidence suggests that sparing physical education for more classroom time does not improve students' academic performance. In some cases, more time in physical education leads to improved test scores. Incorporating recess or brief movement breaks between lessons (for 5-10 minutes) can reduce students' off-task behaviours and thus optimise learning outcomes.² Moreover, participation in extra-curricular physical activities is positively associated with students' academic performance.¹⁵ Thus, school boards and principals may rest assured the positive value of maximising student time in sport and physical activity. Parents and carers should be aware that a sufficient level of physical activity is not only vital for children's physical growth and development, but also for their cognition and learning. Depriving children of physical activity or active play which is vital to growth and development is working against protecting their basic right to health. Sacrificing

children's exercise or play time make way for school work or other academic activities has a price.

Followings are some suggestions for parents and carers to shape children's behaviours for more physical activities—

- ✓ Act as a role model by being physically active;
- ✓ Encourage children to try various kinds of active play, participate in organised sports and develop the habit of walking;
- ✓ Help children select school-based or community physical activity programmes that meet their interests and development needs. Join them in extra-curricular physical activities;
- ✓ Give children toys or gifts that promote physical activity, such as balls, rackets, skipping ropes or bikes, and play with them;
- ✓ Arrange outdoor activities and bring children to parks or beaches often, especially during weekends and holidays;
- ✓ Set time limits on television watching, video/computer game playing and internet surfing.

Remember, active kids are healthy kids in many ways. Healthy kids learn better and score higher marks. For detailed physical activity guidelines or more tips on activating children and adolescents, please visit the "Change for Health" website <http://www.change4health.gov.hk/>.

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Global School Play Day

*Restoring unstructured play
to a generation of kids!*

7 February 2018



Global School Play Day, celebrated on the first Wednesday in February, is an event promoting the importance of children having unstructured play in schools. It was created by a small group of six educators in 2015 because of their concern that adults and technology are encroaching on playtime for children. Schools are eliminating recess. Teachers are assigning more and more homework. Parents are scheduling every waking minute for their kids. Young children are addicted to their devices.

Global School Play Day is for public schools, private schools, and homeschool families, encouraging them to take the plunge and dedicate one whole school day to unstructured play! For more information about the Global School Play Day, please visit <http://www.globalschoolplayday.com/>, or its Facebook Fan page at <https://www.facebook.com/globalschoolplayday/>.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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