

Results from Chinese Taipei (Taiwan)'s 2018 Report Card on Physical Activity for Children and Youth

Chen-Kang Chang and Ching-Lin Wu

Introduction

Recent national surveys in Taiwan revealed that a large proportion of children and youth did not engage in sufficient physical activity. The lack of physical activity in children and youth could lead to serious health and economic burden in the adulthood. The Chinese Taipei (Taiwan) Report Card Team was established in 2017 to consolidate evidence-based evaluation of physical activity related indicators for children and youth. This paper aims to summarize the results of the 2018 Chinese Taipei (Taiwan) Report Card which includes 9 indicators.

Methods

The systematic development process provided by the Active Healthy Kids Global Alliance (<https://www.activehealthykids.org/>) was used. The 2018 Chinese Taipei (Taiwan) Report Card included 9 core indicators that are common to the Global Matrix 3.0: Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behaviors, Physical Fitness, Family, School, Community and Environment, and Government.

The best available data over the past nine years (from 2010 to 2018) were consolidated and reviewed by a panel of experts. The search for data sources included published journal articles, government reports (including grant completion reports), manual searches and personal contacts. According to the pre-defined benchmarks, letter grades were assigned to the 9 indicators. The data sources relied heavily upon national surveys such as the Nutrition and Health Survey in Taiwan,¹⁻³ Census of School Physical Education,⁴ and Physical Fitness Test Results in various levels of schools.⁵⁻⁷ The initial grades were collected and discussed among a team of experts in the related fields. The grades were audited by the Active Healthy Kids Global Alliance and then finalized.

Results and Discussion

Grades and rationale for the 2018 Chinese Taipei Report Card (see Figure 1) are provided in Table 1. Overall physical activity in children and adolescents is poor (F).¹⁻³ The participation of sport teams and clubs in schools is low (D-),⁴ while the time spent in studying and surfing the internet is high (sedentary behaviour C-).^{8,9} Children and youth's fitness level is somewhat reasonable

(B-)⁵⁻⁷; however, when compared to the current norm established in 2011, there is an alarming trend of deterioration in all fitness components in the past 20 years.¹⁰ The government has recognized the issue of insufficient physical activity and developed corresponding policy (B+). Starting from 2010, the government implements 2 long-term major projects to improve physical activity infrastructure and promote sporting events: "Building Taiwan as a Sport Island" (2010-2015) and "Love (Intelligent) Taiwan through Exercise" (2016-). The physical education system and physical activity infrastructure from elementary schools to senior high schools are somewhat adequate (B+).⁴ The aim of Sport & Health 150 (SH150) project is to reach 150 min physical activity per week in schools, excluding regular physical education classes. More than 70% of the schools have adopted this policy. The teenagers seem to be satisfied with physical activity infrastructure in the community

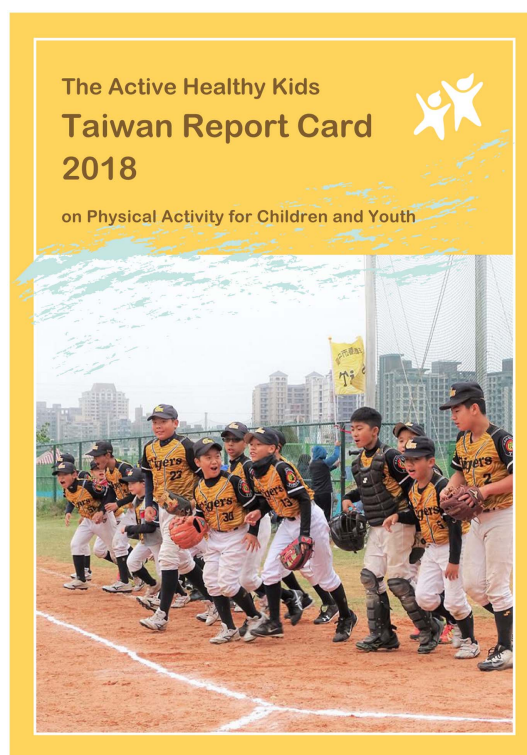


Figure 1 — Chinese Taipei (Taiwan)'s 2018 Report Card cover.

Table 1 Grades and rationales for Chinese Taipei (Taiwan)'s 2018 Report Card

Indicator	Grades	Rationale
Overall Physical Activity	F	5.4% of 13- to 15-year-olds, and 12.1% of 16- to 18-year-olds accumulate >60 minutes of moderate-to-vigorous physical activity daily. ^{1,2} 7.49% of 7- to 12-year-old boys and 5.75% of 7- to 12-year-old girls in participated in moderate physical activity more than 4 times a week. ³
Organized Sport Participation	D-	28% of 7- to 12- year-olds participate in sport clubs and school teams, 24% of 13- to 15-year-olds, and 20% of 16- to 18-year-olds. ⁴
Active Play	INC	No relevant data
Active Transportation	C-	33-46% of 7- to 18-year-olds reported that they walk or bike to schools most of the days. ¹²
Sedentary Behaviors	C-	35% of 12- to 17-year-olds spend < 2 hours per day on the internet, ⁸ and 64.3% of 7- to 12-year-olds spend < 2 hr per day on the internet. ⁹
Physical Fitness	B-	77-83% of 7- to 18-year-olds have cardiorespiratory fitness >25 percentile; more than 85% have muscular and flexibility >25 percentile. Approximately 60% have all fitness components >25 percentile, and approximately 20% have all fitness components >50 percentile. ⁵⁻⁷
Family	INC	No relevant data
School	B+	The majority of schools follow the mandatory 2 physical education classes per week with most of the classes are taught by certified teachers. ⁴ >90% schools have basketball courts and running tracks, while >82% of these facilities are open to public freely after classes. ⁴
Community and Environment	B+	81% of 13- to 17-year-olds feel that there are sufficient exercise facilities in their neighbourhood. 13- to 17-year-olds spend an average of 9.7 min to reach their primary exercise facilities. ¹¹ All local governments have some type of PA policy and events.
Government	B+	Long-term commitment to improve infrastructure and promote physical activity by the central government. Annual budget for Sport Administration, Ministry of Education in 2017 increased by 16% compared to 2016, accounting for 0.43% of total central government budget.

(B+).¹¹ There is no available nationwide high-quality data for active play and family and peers.

Conclusion

It seems that despite the great effort by the government and schools, physical activity and fitness levels are still low while sedentary behaviour remains high. Traditionally, physical activity is outweighed by the pursuit of academic excellence in Taiwan. The missing link may be the influence of family and peers. Future research should focus on this important issue.

Acknowledgment

The 2018 Chinese Taipei (Taiwan) Report Card is funded by National Taiwan University of Sport.

References

- National Health Research Institute. Nutrition and Health Survey in Taiwan 2010: Junior high school students. <https://obesity.hpa.gov.tw/TC/researchList.aspx?cid=165>. Accessed September 28, 2017.
- National Health Research Institute. Nutrition and Health Survey in Taiwan 2011: Senior high school students. <https://obesity.hpa.gov.tw/TC/researchList.aspx?cid=165>. Accessed September 28, 2017.
- National Health Research Institute. Nutrition and Health Survey in Taiwan 2012: Elementary school students. <https://obesity.hpa.gov.tw/TC/researchList.aspx?cid=218>. Accessed September 28, 2017.
- Ministry of Education. Census of School Physical Education, School Year 2015–16. <https://www.sa.gov.tw/wSite/ct?xItem=14767&ctNode=248&mp=11>. Accessed November 5, 2017.
- Ministry of Education. Fitness Test Results School Year 2015: Elementary Schools. <https://stats.moe.gov.tw/files/gender/118-5.xls>. Accessed October 17, 2017.
- Ministry of Education. Fitness Test Results School Year 2015: Junior High Schools. <https://stats.moe.gov.tw/files/gender/118-6.xls>. Accessed October 15, 2017.
- Ministry of Education. Fitness Test Results School Year 2015: Senior High Schools. <https://stats.moe.gov.tw/files/gender/118-7.xls>. Accessed October 15, 2017.
- Ministry of Health and Welfare. Life Style Survey of Children and Teenagers. 2014. <https://www.sfaa.gov.tw/SFAA/Pages/Detail.aspx?nodeid=892&pid=5961>. Accessed October 30, 2017.
- Ministry of Education. Report of Internet Usage in Students Survey. 2015. <https://www.edu.tw/NewsContent.aspx?n=0217161130F0B192&sms=DD4E27A7858227FF&s=F1AA06D56E8D6B20>. Accessed November 5, 2017.
- Lo KY, Wu MC, Ho CC, Hsieh CC, Tung SC. Assessment of physical fitness among taiwanese adolescents: a cohort study from 1997 to 2013. *Sports & Exercise Research*. 2015;17(4):443–460.
- National Taiwan Normal University, Taiwan Trend Research. Opinions toward Exercise and Sport Environment. 2017. <https://www.twtrend.com/sportsurvey/>. Accessed October 2, 2017.
- Ministry of Education. Report of Student Participation in Physical Activity, School Year 2015–16. <https://www.sa.gov.tw/wSite/ct?xItem=14766&ctNode=249&mp=11>. Accessed November 10, 2017.