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ORIGINAL RESEARCH

Results From England's 2016 Report Card on Physical Activity for Children and Youth

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Background: Regular physical activity improves physical and mental health, yet children's physical activity levels were low in England's 2014 Report Card. Within this paper, we update the 2014 Report Card to assess current information for the 9 indicators of physical activity. **Methods:** A search for nationally representative data on 9 indicators of physical activity was conducted and the data were assessed by an expert panel. The panel assigned grades [ie, *A*, *B*, *C*, *D*, *F*, or *INC* (incomplete)] to each indicator based on whether children across England were achieving specific benchmarks. The 2016 Report Card was produced and disseminated. **Results:** The following grades were awarded: Overall Physical Activity Levels: *D*-; Organized Sport Participation: *D*; Active Play: *INC*; Active Transportation: *C*-; Sedentary Behaviors: *INC*; Family and Peers: *INC*; School: *B*+; Community and the Built Environment: *B*; Government Strategies and Investment: *INC*. **Conclusions:** The grades have not improved since the 2014 Report Card and several gaps in the literature are still present. While children's physical activity levels remain low alongside competing sedentary choices, further national plans and investment with local actions are urgently needed to promote physical activity especially via active play, active transport, and family support.

Keywords: exercise, policy, sedentary behavior, adolescent, guidelines and recommendations, public health

According to government recommendations, children in the United Kingdom (UK) aged 5 to 18 years should be engaging in moderate-to-vigorous intensity physical activity (MVPA) for at least 60 minutes every day.[1] However, children's physical activity (PA) levels appear to be low. One recent estimate reported that only 9% of boys and 2% of girls achieved sufficient levels of objectively measured PA.[2] Given the health risks[3–5] and the economic costs associated with physical inactivity,[6] it is important to understand the prevalence of PA and sedentary behavior among children and youth across England, including the extent to which PA is supported by government policy and the built environment.

Active Healthy Kids England was established in 2014 with the aim of providing a 'state of the nation' resource by creating England's first Report Card on Physical Activity for Children and Youth.[7] Several gaps in the literature were identified and PA levels were generally low despite there being evidence of sufficient provision for PA in England.[7]

The purpose of the present paper is to discuss the results of the 2016 Report Card on Physical Activity for Children and Youth. Specifically, we update the 2014 Report Card via the use of newly available data, including published work from a variety of academic and nonacademic sources (eg, from government and nongovernment organizations).

Methods

Active Healthy Kids England consists of an expert panel, including several academics from 5 Universities across England, and a representative involved in research within a leading nongovernmental organization (Youth Sport Trust; YST). The lead author identified key articles and synthesized the evidence from a range of national surveys, published from 2013 to 2016. The lead author was also responsible for writing the Report Card and additional resources (eg, website content). All members contributed to the grade assignment process by providing expertise in their relevant field. In addition, the second author was responsible for creating a media and dissemination strategy with assistance from the YST (fifth author).

Nine indicators of PA were assessed: 1) Overall Physical Activity Levels, 2) Organized Sport Participation, 3) Active Play, 4) Active Transportation, 5) Sedentary Behaviors, 6) Family and Peers, 7) School, 8) Community and the Built Environment, and 9) Government Strategies and Investment. Data used to inform the grades for these indicators were provided from several national surveys including the Health Behavior in School Aged Children Study (HBSC),[8] the Health Survey for England (HSE),[9] the Millennium Cohort Study (MCS),[10,11] the Taking Part Survey (TPS),[12] the National Travel Survey (NTS),[13] and the YST National PE and

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Sport Survey.[14] Reports from the government and the Office for Standards in Education, Children's Services and Skills (Ofsted) were also referred to throughout, as were regional datasets and reports from other organizations when data were not available from national surveys.

The grade assignment meeting took place in April 2016 where members of the expert panel assessed the available evidence, and assigned grades to each indicator once agreement had been reached. The quality of the available data were considered by taking into account the sample size, age range of participants, year of data collection, the reach of the sample (ie, whether data were collected regionally or across England), and the measures used to collect data. Other factors were considered in the grade assignment, including trends in PA behaviors and the presence of any disparities between groups of children (eg, age, gender, and ethnic differences). When such differences occurred, a + or – grade was given to reflect this. The following grade boundaries were used: *A*: 81% to 100%, *B*: 61% to 80%, *C*: 41% to 60%, *D*: 21% to 40%, *F*: 0% to 20%. An incomplete (*INC*) grade was assigned where insufficient data were available or due to the absence of a suitable benchmark.

Results

England's 2016 Report Card is the second iteration of a systematic assessment of PA among children and youth. The grades and benchmarks for each indicator are presented in Table 1, and the front cover is shown in Figure 1. No improvement in any indicator has been made since the 2014 Report Card. For several indicators (Overall Physical Activity Levels, Organized Sports Participation, Active Transportation, and Schools), the grade has declined, whereas for others (Active Play, Sedentary Behaviors, Family and Peers, Community and the Built Environment, Government Strategies and Investment), the grade remains the same.

Discussion

The expert panel decided to focus the 2016 theme and front cover on informal outdoor PA. The benefits of informal activity, such as active play and active transport, including time spent outdoors in relation to PA are well documented.[15–17] Yet the proportion of children who walk to school has declined since 1995–97,[18] and less than 50% of children use active means to travel to nonschool destinations.[11,19] Furthermore, active play typically occurs outside,[20] but it would appear that children spend less time outdoors now than their parents did as they have less 'freedom to roam.'[21,22] Future research is therefore needed on informal outdoor PA, especially given that time spent indoors may largely consist of engaging in sedentary pursuits.[23]

Overall Physical Activity Levels: *D-*

A grade of D- was assigned to children's overall PA levels because boys and girls are consistently within the *D* and *F* grade boundaries respectively, according to self-reported data from a number of surveys. For example, according to the HBSC, 22% of boys and 15% of girls aged 11, 13 and 15 years are achieving 60 minutes of MVPA per day.[8] Similar figures were reported in the HSE (21% of boys and 16% of girls aged 5 to 15 years),[9] and the UK Household Longitudinal Study (35.8% of boys and 21.8% of girls aged 10 to 15 years).[24] Even lower levels were reported among 15 year olds specifically in the What About Youth Survey (18% of boys and 9% of girls).[25] The grade has therefore declined since the 2014 Report Card, in which a grade of *C/D* was awarded,[7] though this may in part be due to a lack of available data on children younger than 11 years old. There is also a distinct lack of objective data available to grade this indicator, though existing guidelines were developed using self-reported estimates of PA which raises the question of whether current guidelines are suitable given that objective estimates of PA tend to show much lower PA levels. Despite this, these findings emphasize the need for regular monitoring of children's PA levels, using objective measures on a wide age range of children and youth, to track changes in PA behavior over time.[7]

Organized Sport Participation: *D*

Although data from the Active People and Taking Part Surveys show that > 70% of children and youth were doing sport at least once a week,[12,26] this may include sport inside of school and was therefore not used to inform the grade. On examination of the data for those involved in organized sport outside of school hours the figures are lower. For example, 34.3% of 5- to 15-year-olds reported doing organized sport outside of school; only 27.4% of 11- to 15-year-olds were members of an external sports club and only 19.2% played for a sports team.[12] Yet again, a higher proportion of boys than girls are engaged in organized sport (35% vs. 21%).[27] Aside from sport, 39% of 8- to 11-year-olds participate in organized leisure-time activities once or twice a week and 20% do so every day or almost every day.[28] Given that the majority of data since the last Report Card now resides within the *D* grade boundary, the grade was reduced from a *C-* to a *D*.

Active Play: *INC*

A lack of available data and appropriate definitional means for measuring this indicator was cited in the 2014 Report Card and an *INC* grade was assigned.[7] The same issues are still apparent and consequently, an *INC* grade was awarded again. Despite this, younger children are likely engaging in active play, particularly during school break times.[29] Yet, participation in physically active play declines with age as a function of biological maturity.[30] For example, recent data from the MCS show 80% of 5-year-olds engage in active play with a parent at least once or twice a week, whereas 54% of 11-year-olds do so.[10] Data are therefore also needed on the type and frequency of unstructured PA performed by adolescents, particularly because it may help to reduce health inequalities.[16]

Active Transportation: *C-*

Data from the NTS and MCS informed this grade, and similar to the 2014 Report Card, 47% to 51% of children actively commute to or from school, though only 2% of these children go by bicycle.[11,13] Approximately 55% of primary schools offered Bikeability cycle training in 2012,[31] though according to a recent evaluation of the scheme, there was no evidence of increased cycling frequency levels among children.[32] Additional measures may be needed, including changes to the built environment (eg, segregated cycle lanes and traffic free routes), if we are to improve both bicycle safety and cycling levels across England.[33,34]

In terms of active transport to nonschool destinations, general bike use is slightly better with 28% of 11 year olds reporting the use of their bike several times a week,[11] and 47% of 2- to 16-year-olds walk for 20 minutes or more, 3 or more times a week.[19] However, boys are more likely to travel on their own by bike (36% vs. 23%)

Table 1 Grades According to Physical Activity Indicators Assessed in England's 2016 Report Card on Physical Activity for Children and Youth

Indicator	Benchmark(s)	Grades
Overall Physical Activity Levels	% of children/youth achieving ≥ 60 minutes of MVPA per day	*D-*
Organized Sport Participation	% of children/youth participating in organized sport/PA programs out of school time	*D*
Active Play	% of children/youth engaging in daily unstructured/unorganized active play	*INC*
Active Transportation	% of children/youth who use active transport to get to and from places (school, park etc.)	*C-*
Sedentary Behaviors	% of children/youth meeting sedentary behavior guidelines	*INC*
Family and Peers	% of parents who support their children's PA and sport opportunities (eg, volunteering, paying membership fees, driving, etc.)	*INC*
	% of parents who do sport/PA with their children	
	% of children/youth who have friends that support them to be physically active	
School	% of schools allocating at least 120 minutes of curriculum PE per week	*B+*
	% of schools with specialist PE teachers	
	% of schools that offer additional PA opportunities (excluding PE)	
	% of schools that promote PA as part of the school day	
	% of pupils who have access to PA facilities at school (eg, sports hall, outdoor playground) that are in good condition	
Community and the Built Environment	% of children/youth with access to outdoor parks and spaces	*B*
	% of children/youth who use outdoor parks and spaces	
	% of children/youth who are satisfied with their local outdoor parks and spaces	
	% of children/parents who perceive their neighborhood to be safe	
Government Strategies and Investment	Evidence of allocated funds and PA promotion strategies/initiatives for all children and youth	*INC*

Note. The grade boundaries for each indicator are: *A* is 81% to 100%; *B* is 61% to 80%; *C* is 41% to 60%, *D* is 21% to 40%; *F* is 0% to 20%; *INC* is Incomplete data.

Abbreviations: MVPA, moderate-to-vigorous intensity physical activity; PA, physical activity; PE, physical education.

Figure 1 — Front cover of England's 2016 Physical Activity Report Card.

and by foot (54% vs. 44%) than girls, according to the MCS,[11] which likely reflects the higher level of independent mobility typically given to boys.[35] Due to the lack of improvement on this indicator, the consistently low levels of bike use, and the lower proportion of girls making journeys on their own by active means, the panel decided to drop the *C* grade to a *C*-. However, it must be noted that some children may use other forms of active travel not considered here (eg, scooters, roller blades, skate boards, etc.) and some journeys may be made using both passive and active means. An internationally agreed definition and metric of active travel is necessary to facilitate comparisons across countries.

Sedentary Behaviors: *INC*

An *INC* grade was assigned to this indicator for a second year, because there are currently no UK guidelines which specify a threshold for sedentary time that can be used as a benchmark.[7] Furthermore, there is a lack of available data on children's engagement in sedentary behaviors with the exception of recreational screen time, which shows that 62% of young people reported watching TV and screen-based media for > 2 hours per day.[8] However, past research has focused heavily on TV viewing alone but children and young people have access to a wide range of screen-based entertainment,[36] thus future research is needed on the effects that this may have on children's health. Data on other nonscreen based sedentary behaviors are also required, particularly since children who engage in high screen time may be more sedentary in general.[37] In order for a grade to be assigned in future Report Cards, and to advance this area of research, specific evidence-based guidelines for sedentary behaviors are needed in the UK.

Family and Peers: *INC*

For a second time, an *INC* grade was awarded to this indicator due to a lack of nationally representative data on family and peer support for PA in England.[7] Data from the YST shows that 53% of parents are engaged in their child's extracurricular PA and sport at school, though only 8% of these parents are reported to be 'completely engaged' (2015 YST; unpublished custom analysis). However, it is unclear what is meant by 'engaged' in terms of the type of support provided by parents, thus these data were not used to inform a grade. Only 1 benchmark, which examined the proportion of children doing sport/PA as a family, could be assigned a grade. This benchmark was given a *D* grade because 41% of young people do PA with their family at least once a week.[8]

School: *B+*

Five benchmarks were assessed, including a new benchmark on the proportion of schools who have a specialist teacher delivering curriculum Physical Education (PE). This new benchmark contributed to the decline in the overall school grade from an *A*- to a *B*+ overall.

Data from the PE and Sport Survey[38] were used to inform the *A*- grade for school PE in the 2014 Report Card.[7] This survey was discontinued from 2010, and PE is no longer monitored annually across all schools in England.[39] However, data have been collected recently by the YST, which was used to inform the grades for the majority of the school benchmarks. According to this survey, 77% of schools offer at least 2 hours of PE per week at Key Stage 1 (ages 5 to 7); this rises to 83% and 86% at Key Stages 2 (ages 7 to 11) and 3 (ages 11 to 14), respectively, but provision drops to 58% at Key Stage 4 (ages 14 to 16) (2015 YST; unpublished custom analysis). In addition, > 97% of schools report offering extracurricular PA and sport, and 85% of secondary and 97% of primary schools report encouraging PA as part of the school day.[14] As such, a *B*+ was assigned for school PE, and an *A* grade was awarded to both the availability of additional opportunities and the promotion of daily PA benchmarks. As 57% of schools reported having a specialist PE teacher, with more secondary schools (86%) providing this than primary schools (44%) (2015 YST; unpublished custom analysis), a *B*- was awarded to the provision of a PE specialist benchmark.

As for the provision of PA facilities at school, data from a report on spending the PE and Sport Premium (£150 million ring-fenced funding provided to all primary schools in England[I]) was used.[40] This report shows that 46% of primary schools have access to outside courts, 64% to 78% have access to a multipurpose school hall, swimming pool and playing field, and 100% have access to a playground.[40] It is a statutory requirement for schools to provide outdoor space for PA, though this does not apply to pupil referral units (an establishment for those who are unable to attend mainstream school),[41] and according to a consultation by Sport England, approximately 3000 primary schools do not have adequate outdoor space for PA and sport.[42] Furthermore, the benchmark specifies that facilities should be in 'good condition,' but the only indication of the quality of such facilities is that 47% of schools thought the quality and 45% thought the range of their facilities had improved since

the introduction of the PE and Sport Premium.[40] Further, 30% of young people say they would play more sport if their school had better facilities.[27] As such, it is possible that some school facilities may need improvement and little is known about provision across secondary schools. Taking this into account, the grade for this benchmark was reduced from an *A* to a *B*+.

Community and the Built Environment: *B*

The grade for this indicator has not changed and remains at a *B*.[7] Four benchmarks were used to measure this indicator, pertaining to access to and use of outdoor parks and spaces, satisfaction with such spaces and perceptions of safety within the local neighborhood.

According to data from the MCS, 93.4% of 11-year-olds have a playground available to them where they live, and 61.2% of 5-year-olds are taken to a playground weekly.[10] Other data show that 70% of children visit the natural environment at least once a week.[43] Consequently, *A* and *B* grades were awarded for access to and use of outdoor parks and spaces respectively. In terms of satisfaction with these spaces, a *C* grade was assigned because 59% of park managers, and 50% of park visitors, feel that their parks are in good condition.[44]

It is promising that 72% of young people agreed that it is safe for children to play outdoors during the day where they live according to the HBSC,[8] and a higher proportion of parents (86.4%)[45] and 11-year-olds (89%)[11] report that their home area is safe, according to the MCS. A *B*+ was awarded to this benchmark to place emphasis on the HBSC data, given that it is more relevant to PA in particular, and the + was included to reflect the higher percentage reported in the MCS. An area for consideration in future Report Cards is the perception of traffic safety and the proportion of children who are allowed to leave the house to play outdoors/actively travel to places unsupervised. This will provide a better indication of neighborhood safety and whether the spaces near to home are adequately suited to PA behaviors.

Government Strategies and Investment: *INC*

Akin to the 2014 Report Card, grading this indicator was difficult due to a lack of independent evaluation of different strategies and policies that are currently in place.[7] Thus, we do not know how successful such policies are in terms of promoting PA participation among children and youth. However, due to the lack of improvement across all grades in the 2016 Report Card, it would seem unlikely that current policies and strategies are having a significant impact on a large scale.

Strengths and Limitations

England's 2016 Report Card has a number of strengths. First, it is the only review of its kind available in England which includes an overall assessment of multiple PA behaviors and varying levels of influence among children and youth. Second, it is a useful resource which can be used by a number of people including public health practitioners, teachers, parents and others that have an influence on children's PA levels. It can also be used to influence future policy directions, serve as a tool for developing future research ideas, and guide research funding priorities.[7] Further, a number of experts in the field were involved in the grade assignment.

Despite these strengths, some limitations should be highlighted. For example, there is a lack of available data to measure some indicators which was also the case for England's 2014 Report Card.[7] Although the best available evidence was used to inform the grades, there is a need for continuous monitoring of children's PA participation using objective measures on a wide age range of participants (eg, from 2 to 18 years). In addition, there are still no UK specific guidelines for sedentary behavior. Such guidelines are needed if we are to grade this indicator in future, and a systematic surveillance tool that captures nationally representative data akin with all benchmarks is needed.

Conclusion

In conclusion, the grades reflect that PA levels are low among children and youth across England. There has been no improvement since the last edition of the Report Card, with many grades having declined, and a lack of available data to measure some indicators. Despite this, there is still sufficient provision of facilities and PA programs for children and youth, reflected in the B+ and B grades awarded to the school and community indicators. Thus, further work is needed to understand how to promote the use of such facilities and programs.

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Notes

[1] This funding will be doubled from April 2018 as part of the new sugar tax.[46]

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