



**ACTIVE HEALTHY KIDS  
AUSTRALIA**



# REBOOT!

**REIMAGINING PHYSICALLY ACTIVE LIVES**

**2022 Report Card**

on Physical Activity for Children and Young People

# REBOOT!

## REIMAGINING PHYSICALLY ACTIVE LIVES

**Grades in the 2022 Report Card were largely unchanged from the 2018 Report Card; there has been a lack of improvement across the board in physical activity benchmarks for children and young people since the Report Card initiative commenced in 2014.**

The Report Card theme highlights the unique opportunity we have at this nexus of social change to create more physically active lives for all.



### OVERALL PHYSICAL ACTIVITY

D-

About one quarter of Australian children and young people are meeting national guidelines for their age.



### PHYSICAL FITNESS

D+

Compared to international benchmarks, Australian children and young people have below average fitness levels.



### GOVERNMENT

C-

Government policy around physical activity is lacking; there has been substantial investment by some jurisdictions to reduce the cost barrier to participation in organised sport for children and young people.



### COMMUNITY AND ENVIRONMENT

A-

Most children and young people have access to parks, playgrounds and sports grounds in their neighbourhoods; most report their neighbourhoods are safe.



## **SCHOOL C+**



Less than one third of primary schools are scheduling sufficient curriculum time to physical activity as mandated under state policies; around two thirds of schools have specialist PE teachers.

## **ACTIVE TRANSPORT D+**



About one third of children and young people usually travel to school using active transport for at least part of their journey.



## **ORGANISED SPORT B-**

Around two thirds of children and young people participate in organised sport (outside of school hours) at least once per week.

## **FAMILY AND PEERS C+**



Parents provide support for children and young people to be physically active although few are active themselves; around half of children and young people report peer encouragement to be active.



## **ACTIVE PLAY INC**

With no single metric for this indicator and minimal data on non-organised forms of play and recreation for children and young people.

## **SCREEN TIME D-**



Less than one third of Australian children and young people are meeting national guidelines for their age.

There is a lack of national (and state/territory) data for many of the indicators.

We gratefully acknowledge funding provided by the following organisations for production of the 2022 Active Healthy Kids Australia Physical Activity Report Card



The 2022 Active Healthy Kids Australia Report Card was developed via a harmonised process as part of the Active Healthy Kids Global Alliance ([www.activehealthykids.org](http://www.activehealthykids.org)).



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The 2022 Report Card on Physical Activity for Children and Young People should be cited as follows:

Active Healthy Kids Australia (2022). Reboot! Reimagining Physically Active Lives: 2022 Australian Report Card on Physical Activity for Children and Young People. Melbourne, Victoria: Active Healthy Kids Australia  
<https://doi.org/10.21153/ahka2022>

*The 2022 Report Card is available online at:*  
[www.aspactivity.org/resources](http://www.aspactivity.org/resources)

ISSN: 206-5881

[www.aspactivity.org](http://www.aspactivity.org)





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**Date of Publication:** February 2022

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# EXECUTIVE SUMMARY

Physical activity is vitally important for child health, development and learning. Active kids are more likely to become active adults and this benefits us all, with reduced burden on our health systems. Yet we know that Australian children are not moving enough to see these benefits. Since the inception of the Australian Physical Activity Report Card in 2014, our national and state surveillance data has consistently shown overall physical activity levels score a D-. This means that fewer than one third of our children are meeting the national guidelines for the recommended levels of daily physical activity needed for optimal health and wellbeing. We need to be doing more to get our kids moving!

This year's Report Card provides very similar gradings to prior Report Cards (released in 2014, 2016, and 2018). Grades remain unchanged from the 2018 Report for Overall Physical Activity (D-), Organised Sport and Physical Activity Participation (B-), Active Transport (D+), Screen Time (D-), Family and Peers (C+), Community and the Built Environment (A-), and Physical Fitness. Active Play again received a grade of *incomplete* given a lack of a national benchmark and data to assess this indicator. There was a modest improvement in the grade for Strategies and Investments, graded C- compared to D in 2018, primarily due to an increase in state and territory investment in facilitating children's physical activity participation. The Report Card has previously graded two separate indicators of School and Physical Activity Participation in Schools. This year these indicators were combined to align with the Global Matrix. The single indicator for School received a reduced grade of C+, down from B+ (School) and B (School and Physical Activity Participation in Schools) in 2018. This reduction can be attributed to new state-based data on the proportion of schools implementing the mandated time in planned physical activity at school and to national data on the proportion of schools with specialist PE teachers. Again, to align with the Global Matrix which does not grade Movement Skills, this indicator was not included in the current Report Card.

The theme of this year's Report Card, 'REBOOT! Reimagining physically active lives', highlights the opportunity that the global COVID-19 pandemic has brought, as a catalyst to reassess and reboot ideas and possibilities around children's physical activity and how to create more physically active lifestyles for all. While restrictions brought about by the pandemic generally resulted in children being less physically active than before, there have also been changes in how children are physically active. It is these changes and innovations that hold promise for children's physical activity moving forward. In particular, changes that should be retained and built upon include: the embracing of leisure activities such as walking and cycling, including new infrastructure; a focus on being active in nature and neighbourhood green spaces; and innovations in the use of technology to support physical activity in the home. We now have a unique opportunity to capture these positive changes and integrate them with what we know works from before. There is real optimism for the future and for opportunities to improve the physical activity levels of our children, and their health and wellbeing across the lifespan. We need to work together and grab this window of opportunity to benefit Australia's children.

# PHYSICAL ACTIVITY

## Why is it important?

Ensuring that Australian children and young people engage in (at least) the recommended amounts of daily physical activity is vital for their health and wellbeing now and in the future. The evidence tells us that children and young people who are active on a daily basis are at lower risk of conditions including overweight and obesity, Type II diabetes, and metabolic syndrome. They are also more likely to have a higher level of aerobic fitness and bone health and experience positive mental and cognitive health benefits.<sup>1-7</sup> Furthermore, research shows that children who are physically active achieve greater academic success and maintain higher attention levels during class at school.<sup>8</sup>

**Ensuring that Australian children and young people engage in (at least) the recommended amounts of daily physical activity is vital for their health and wellbeing now and in the future...**

## What do the guidelines say?

The Australian 24-hour Movement Guidelines for the Early Years<sup>9</sup> and for Children and Young People<sup>10</sup> provide clear recommendations across three key categories:

- + the minimum amount of physical activity;
- + the maximum amount of some sedentary behaviours (including screen time for entertainment);
- + and the optimal amount of sleep in which children should engage to experience meaningful health benefits.

A summary of the guidelines for infants (birth to 1 year), toddlers (1–2 years), pre-schoolers (3–5 years), children (5–12 years) and young people (13–17 years) is shown in Table 1 and can also be accessed online from the Australian Government Department of Health website

<https://www.health.gov.au/health-topics/physical-activity-and-exercise/physical-activity-and-exercise-guidelines-for-all-australians>



Table 1

## Summary of the Australian 24-hour Movement Guidelines for the Early Years<sup>9</sup> and for Children and Young People.<sup>10</sup>

### 24-HOUR MOVEMENT GUIDELINES FOR THE EARLY YEARS

| Age group                        | Physical activity recommendations  | Sedentary behaviour and screen time <sup>^</sup> recommendations   | Sleep recommendations   |
|----------------------------------|--|--|---|
| <b>Infants (Birth to 1 year)</b> | Supervised interactive floor-based play (in safe environments) should be encouraged from birth.<br><br>During awake periods, it is encouraged that those not yet mobile engage in 30 minutes of tummy time spread throughout the day. This time should include reaching and grasping, pushing and pulling, and crawling. | Not be restrained for more than 1 hour at a time (e.g. in a stroller, car seat or high chair).<br><br>No time spent watching television or using other electronic media (DVDs, computer and other electronic games).<br><br>Parents/caregivers should engage with infants, when sedentary, through activities such as reading, singing, puzzles and storytelling.                      | 14 to 17 hours (for those aged 0–3 months) and 12 to 16 hours (for those aged 4–11 months) of good quality sleep, including naps. |
| <b>Toddlers (1–2 years)</b>      | Spend at least 180 minutes a day doing a variety of physical activities including energetic play such as running, jumping and twirling spread throughout the day. More is better.  | Not be restrained for more than 1 hour at a time (e.g. in a stroller, car seat or high chair) or sit for extended periods.<br><br>Toddlers younger than 2 years should spend no time engaging in screen time.<br><br>Toddlers aged 2 years and pre-schoolers, should not engage in more than 1 hour, in total, of sedentary screen time throughout the 24-hour period. Less is better. | 11 to 14 hours of good quality sleep, including naps with consistent sleep and wake-up times.                                     |
| <b>Pre-Schoolers (3–5 years)</b> | Spend at least 180 minutes a day in a variety of physical activities, of which 60 minutes is energetic play such as running, jumping, kicking and throwing, spread throughout the day. More is better.   | Parents/caregivers should engage with toddlers and pre-schoolers, when sedentary, through activities such as reading, singing, puzzles and storytelling.   | 10 to 13 hours of good quality sleep, including naps with consistent sleep and wake-up times.                                     |

### 24-HOUR MOVEMENT GUIDELINES FOR CHILDREN AND YOUNG PEOPLE

| Age group   | Physical activity recommendations   | Sedentary behaviour and screen time <sup>^</sup> recommendations   | Sleep recommendations  |
|---|---|--|--|
| <b>Children (5–12 years) &amp; Young People (13–17 years)</b> | Accumulate at least 60 minutes of moderate* to vigorous# intensity physical activity every day. More is better.<br><br>At least 3 days per week, children and young people should incorporate vigorous activities and activities that strengthen muscle and bone in the 60 minutes.<br><br>For additional health benefits, children and young people should also do several hours of various light intensity physical activities each day such as walking and handball. | Minimise the time spent being sedentary every day and break up long periods of sitting as often as possible.<br><br>Limit to no more than 2 hours of sedentary recreational screen time per day, not including screen time needed for school work. | 9 to 11 hours of uninterrupted sleep for 5–13 year olds and 8–10 hours of uninterrupted sleep for 14–17 year olds, including consistent sleep and wake-up times.<br><br>Avoid screen time 1 hour before sleep. |

\*Moderate intensity physical activity requires some effort but children and young people should still be able to speak easily (e.g., brisk walking, active play, riding a bike or scooter).

#Vigorous intensity physical activity requires more effort and should make children and young people breathe harder and faster ("huff and puff") when participating (e.g., running, playing sport).

<sup>^</sup>Muscle and bone strengthening activities can include activities such as body weight exercises (e.g., push-ups and squats, dancing, gymnastics, hanging from the monkey bars).

<sup>^</sup>Screen time refers to time spent using electronic media such as televisions, smart phones, tablets, seated electronic games, portable electronic devices or computers for entertainment.



# REBOOT!

## REIMAGINING PHYSICALLY ACTIVE LIVES

For many, the COVID-19 pandemic has been a catalyst for people to stop, reflect and reassess personal and family routines and priorities. There have been many external changes brought about by restrictions, most of which will likely revert over time (or have already, particularly for those living in the states and territories who have not experienced major outbreaks). These changes have happened alongside other, non-COVID-19 related societal changes that have potential to impact children's physical activity. Examples include the legitimisation (e.g., added to Olympics) of non-traditional sports such as skateboarding, surfing, and rock climbing, increase in vertical (multi-storey) schools, and the use of digital technologies. As we move into a post-pandemic world, it is timely to consider how we can ensure children and young people's physical activity is a key consideration in the plans of families, early years settings and schools, communities, and governments.

Extended lockdowns in many parts of Australia created shifts in societal practices and family perspectives. The forced disengagement from more traditional forms of children's physical activity, such as organised team sports and physical education at school, opened the door for more quality family time and recreational activities. Instead of parents spending their weekends transporting children to different sporting activities, families suddenly had free time to play together. Some families relished this reduction in the number of organised activities for their children, but will there be implications for longer term reduced participation in organised physical activity? We know that children's participation in organised sport has many benefits for their health, wellbeing and social connection<sup>11-13</sup> and can result in lifelong engagement in sport and physical activity,<sup>14,15</sup> so

it may be important for children to get back into sport. But it will also be important that we try not to lose the activities that have replaced organised sport during lockdowns, such as more time spent being active as a family, more leisure activities, more nature play (particularly during the closure of playgrounds), and more time spent playing in the neighbourhood, all of which have benefits for physical activity and broader outcomes.<sup>16-18</sup> Finding the balance between organised and non-organised physical activity may be important for children and young people moving forward.

**“Long bike rides, walks and ball sports as a family have increased but other activity like gym, swimming and school basketball have stopped. Overall, the same level of activity but done in a different way.”**

*Victorian mother of two school-aged children  
quoted in AIFS report<sup>19</sup>*

Lockdowns resulted in marked reductions in motor vehicle traffic,<sup>20</sup> making neighbourhood streets safer for children and young people to use for physical activity and recreation. Since the start of the pandemic there has also been a notable increase in bicycle traffic across Australia, with people cycling for transport, exercise and leisure.<sup>20</sup> Cycling infrastructure has been enhanced in some areas in reaction to this, including the installation of 'pop up' bike lanes in both Melbourne and Sydney.<sup>20</sup> There is a key opportunity here to retain and extend this important infrastructure when motor vehicle traffic returns to pre-pandemic levels, providing children and families with the opportunity to embrace cycling for leisure and active commuting in a safer environment. Monitoring of one of the first 'pop up' bike lanes in Melbourne has shown increased use, particularly by women, children and families.<sup>21</sup>

One of the other big changes to come about because of lockdowns was the emergence of digital technologies to facilitate children's physical activity. We know that digital platforms were extensively used by children and young people during lockdowns<sup>22</sup> to engage in activities they

could not attend in person (e.g., online dance and martial arts classes using Zoom), to stimulate ideas for fun home-based activity (e.g., dance routines on TikTok and streaming services such as YouTube), and to self-motivate by recording their own activities.

We now face a great opportunity to reshape the way we conceptualise children and young people's physical activity. By embracing the learnings and innovations that arose in response to the pandemic we must aim to provide children with variety and flexibility in the types of physical activity offerings and the way we deliver physical activity opportunities. Done well, increased flexibility in the way physical activity opportunities are delivered has potential for flow on effects: increasing access, reducing inequalities, and ultimately creating a more active population of children and young people now and into the future. The increased focus on health during the pandemic also provides opportunities to leverage public and political interest and translate this into policy actions that provide long term benefit to children and young people in facilitating their physical activity. A good place to start would be a National Physical Activity Plan.

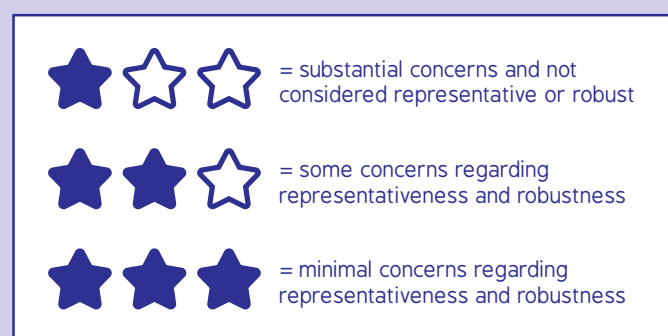
# METHODS AND DATA SOURCES

Grades for the Report Card indicators were informed using data synthesised from national and state/territory-based surveys and studies, collected from 2016 onwards to ensure currency. A description of the data sources accessed and which indicators they provided data for are reported in Table 2.

Where sufficient data were available, grades were based primarily on national data although all national and state/territory-based data were considered. After evaluating the synthesised data, the Report Card Development Team engaged in purposeful discussions based upon each indicator metric/s (e.g., for Overall Physical Activity Levels: the proportion of Australian children and young people who meet the Australian 24-hour movement guidelines for their age) and pre-determined grade benchmarks that are consistent with those used by other countries participating in the Global Matrix 4.0.

A confidence 'star rating' has been assigned to each grade based on how representative the data are deemed to be (e.g., national vs. state/territory-based survey, sampling frame/procedure and response rate, age range of children surveyed, sample size obtained) how robust the data are deemed to be (e.g., objective vs. subjective, how subjective questions were asked, reliability and validity), and how well the data address the grading metrics (single data source vs. multiple, address all or some grading metrics).

The 'star rating' is as follows:



|   |   |                     |
|---|---|---------------------|
| <b>A+</b><br>94-100%  | <b>A</b><br>We are succeeding with a large majority of children and youth (87–93%)          | <b>A-</b><br>80-86% |
| <b>B+</b><br>74-79%   | <b>B</b><br>We are succeeding with well over half of children and youth (67–73%)            | <b>B-</b><br>60-66% |
| <b>C+</b><br>54-59%   | <b>C</b><br>We are succeeding with about half of children and youth (47–53%)                | <b>C-</b><br>40-46% |
| <b>D+</b><br>34-39%   | <b>D</b><br>We are succeeding with less than half but some children and youth (27–33%)      | <b>D-</b><br>20-26% |
| <b>F</b><br>We are succeeding with very few children and youth (<20%) | <b>INC</b><br><b>Incomplete</b><br>Insufficient or inadequate information to assign a grade |                     |

Table 2

### Data sources used to inform the 2022 Physical Activity Report Card grades and key findings for each indicator.

| Survey                                | Year(s) data collected | Ages / Grades reported on<br>(self/proxy/teacher-report or objective) | Indicator data available for* |
|---------------------------------------|------------------------|---|-------------------------------|
| <b>National<sup>^</sup></b>           |                        |   |                               |
| LSAC <sup>23</sup>                    | 2017-18                | 14-15yrs (SR)   | 1, 2, 5, 7                    |
| LSAC <sup>24</sup>                    | 2020-21                | 16-18 (PR)  | 6                             |
| ABS NHS <sup>25</sup>                 | 2017-18                | 15-17yrs (SR)   | 1                             |
| NaSSDA <sup>26</sup>                  | 2018                   | 12-17yrs (SR)   | 1, 2, 3, 5, 6, 7, 8           |
| RCH Poll <sup>27</sup>                | 2020                   | Birth-18yrs (PR)  | 1, 4                          |
| RCH Poll <sup>28</sup>                | 2019                   | Birth-18yrs (PR)  | 3                             |
| RCH Poll <sup>29</sup>                | 2017                   | Birth-18yrs (PR)  | 5, 6                          |
| AusPlay <sup>30</sup>                 | 2019-20                | 0-14yrs (PR) & 15-17 (SR)   | 2                             |
| ABS CEaCS <sup>31</sup>               | 2017                   | 0-8yrs (PR)   | 6                             |
| <b>State / Territory<sup>\$</sup></b> |                        |   |                               |
| ACTPANS <sup>32</sup>                 | 2018                   | 10-13yrs (SR)   | 1                             |
| QLD CPHS <sup>33</sup>                | 2019-20                | 5-17yrs (PR)  | 1                             |
| QLD CPHS <sup>34</sup>                | 2017-18                | 5-17yrs (PR)  | 2, 3, 4, 7                    |
| SAPHS <sup>35</sup>                   | 2019                   | 5-17yrs (PR)  | 1, 5                          |
| VCHWS <sup>36</sup>                   | 2019                   | 5-12yrs (PR)  | 1, 5, 8                       |
| WA HWSS <sup>37</sup>                 | 2018                   | 5-15yrs (PR)  | 1                             |
| NSW CPHS <sup>38</sup>                | 2018-19                | 5-15yrs (PR)  | 1                             |
| ACTGHS <sup>39</sup>                  | 2018                   | 5-15yrs (PR)  | 1, 3                          |
| ASSAD - ACT <sup>40</sup>             | 2017                   | 12-17yrs (SR)   | 1                             |
| ASSAD - WA <sup>41</sup>              | 2017                   | 12-17yrs (SR)   | 1                             |
| ASSAD - QLD <sup>42</sup>             | 2017                   | 12-17yrs (SR)   | 1, 5                          |
| ASSAD - TAS <sup>43</sup>             | 2017                   | 12-17yrs (SR)   | 1, 2, 3, 5                    |
| NSW SSHBS (ASSAD) <sup>44</sup>       | 2017                   | 12-17yrs (SR)   | 1                             |
| VSHAWS <sup>45</sup>                  | 2018                   | 10-17yrs (SR)   | 1                             |
| ASSAD - SA <sup>46</sup>              | 2017                   | 12-17yrs (SR)   | 1, 6                          |
| Transform-Us! <sup>47</sup>           | 2018-19                | Grade F - 6 (TR)  | 7                             |
| PACE <sup>48, 49</sup>                | 2019                   | 7-9yrs (PR)   | 7                             |
| iPLAY (NSW) <sup>50</sup>             | 2021                   | 7-11yrs (objective)   | 7, 10                         |
| RT TEENS <sup>51</sup>                | 2015                   | Grade 9 (objective)   | 10                            |
| <b>Supplementary<sup>!</sup></b>      |                        |   |                               |
| SA DECD WEC <sup>52</sup>             | 2019                   | Grades 4-9 (SR)   | 2                             |
| GVHBMS (VIC) <sup>53</sup>            | 2019                   | 9-12yrs (SR)  | 3                             |
| WHO STOPS (VIC) <sup>54</sup>         | 2019                   | 9-12yrs (SR)  | 3, 6                          |
| PLAYCE (WA) <sup>55</sup>             | 2017-18                | 2-5yrs (objective)  | 6                             |
| JTC <sup>56</sup>                     | 2016                   | 10-18yr (SR)  | 4                             |
| Young Screens Study <sup>57</sup>     | 2017                   | 0-5yr (PR & TR)   | 5                             |

\* Number coincides with how indicators are presented in the Report Card (see next page).

<sup>^</sup> Representative National data — grades assigned based primarily on national data, where possible.

<sup>\$</sup> Representative State/Territory data — when national data were lacking used to assign grades.

<sup>!</sup> Supplementary data — collected at the state/territory level but not representative. Provided additional information but not used to assign grades.

Note, ACTGHS = ACT General Health Survey; ACTPANS = ACT Year 6 Physical Activity and Nutrition Survey; ABS CEaCS = Australian Bureau of Statistics Childhood Education and Care Survey; ABS NHS = Australian Bureau of Statistics National Health Survey; ASSAD = Australian Secondary Students' Alcohol and Drug Survey; GVHBMS = Goulburn Valley Health Behaviours Monitoring Study; iPLAY = Internet-based Professional Learning to help teachers support Activity in Youth; JTC = John XXIII College study; LSAC = Longitudinal Study of Australian Children; NaSSDA = National Secondary Students' Diet and Activity survey; NSW CPHS = NSW Child Population Health Survey; NSW SSHBS = NSW School Students Health Behaviours Survey; PACE = Physically Active Children in Education; PLAYCE = PLAY Spaces and Environments for Children's Physical Activity Study; PR = Parent/Proxy-report; QLD CPHS = QLD Child Preventive Health Survey; RCH Poll = Royal Children's Hospital National Child Health Poll; RT for Teens = Resistance Training for Teens; SA DECD WEC = South Australian Department for Education and Child Development Wellbeing and Engagement Collection; SAPHS = South Australian Population Health Survey; SR = Self-report; TR = Teacher report; VCHWS = Victorian Child Health and Wellbeing Survey; VSHAWS = Victorian Student Health and Wellbeing Survey; WA HWSS = Western Australia Health and Wellbeing Surveillance System; and WHO STOPS = Whole of Systems Trial of Prevention Strategies for Childhood Obesity

# INDICATORS

1. Overall Physical Activity Levels
2. Organised Sport and Physical Activity Participation
3. Active Transport
4. Active Play
5. Screen Time
6. Family and Peers
7. School
8. Community and the Built Environment
9. Strategies and Investments
10. Physical Fitness



**Figure 2.**

Visual representation of the AHKA Report Card physical activity indicator categories.

*Note, + = increases PA levels; - = decreases PA levels; PA = Physical Activity.*



# READING THE GRADES

The following sections describe each of the 10 indicators and the grades assigned to each. Within each section, the following sub-sections will be used to examine each indicator:

## RATIONALE

Briefly describes how and why the grade was assigned based on the evidence assessed.

## GRADE ASSIGNMENT BOX

Shows the grade allocated to each indicator, as well as the grades assigned in previous Report Cards, and lists the metrics used to assign the grade.

## CONFIDENCE RATING

Shows the confidence rating (1, 2 or 3 stars) allocated to each indicator by the AHKA RWG. This rating reflects the representativeness and robustness (see methods section for description of each) of the data used to inform each grade.

## WHAT DO WE NEED TO KNOW?

Lists key research gaps that have been highlighted by the Report Card findings. It also identifies what future research is needed to better inform the grade.

## BEYOND THE GRADE

Reports on information that did not necessarily inform each grade but provides an interesting perspective on aspects that link with each indicator.

| ACTIVE PLAY  | 2014 | 2016 | 2018 | 2022 |
|--|------|------|------|------|
|  | INC  | INC  | INC  | INC  |
| No consensus on a primary metric could be reached. |      |      |      |      |
| Confidence Rating                                  | N/A  |      |      |      |

Authored by: Nicola Ridgers (Deakin University)

### RATIONALE

This 'Incomplete' grade reflects the lack of consensus as to how to operationalise 'Active Play'. There is currently no single metric that defines active play across different age groups, and no developed national benchmark that determines whether children and young people are engaging in sufficient active play.

### KEY FINDINGS

#### National:

- Parent-report data shows that 42% of children aged 5-18 years spent less time going outside for physical activity during 2020.<sup>17</sup>

#### State/Territory:

- Parent-report data show that 93% of children aged 5-17 years participated in recreational and/or non-organised physical activity.<sup>18</sup>

#### Supplementary:

- Self-report data<sup>19</sup> show that males aged 10-18 years engage in more active play, non-organised, and recreational physical activity (116 minutes/day) compared to females (88 minutes/day).

### HOW CAN WE IMPROVE THE GRADE?

- Opportunities for engaging in active play need to be provided every day in home, school, and community settings. This may include free play opportunities during recess and lunchtime.<sup>18</sup> providing natural play spaces and loose materials (e.g., twigs, rocks, pebbles, sand) in community settings<sup>20,21,22</sup> and providing play equipment (e.g., balls, jump rope) at home.<sup>23</sup>

- Outdoor play has multiple benefits for children's healthy growth and development.<sup>18</sup> providing support to address child and parental concerns about outdoor play (e.g., injury, risk, neighbourhood safety)<sup>24,25</sup> and increasing connectedness to nature through programs such as outdoor play events<sup>26</sup> could potentially increase active play levels for children and young people.

- Risky outdoor play — thrilling and exciting play that has uncertainty and increased physical injury risk — provides children and young people with the opportunity to develop risk management strategies.<sup>27,28,29</sup> There is a need to design diverse environments that facilitate risky play opportunities for children and young people.

### WHAT DO WE NEED TO KNOW?

- Active play is usually intermittent, involving short bursts of moderate- to vigorous-intensity physical activity interspersed with sedentary and light physical activity.<sup>18</sup> The transitory nature of children's play can be difficult to assess using parent- or self-report measures.<sup>18</sup> Examining the way in which children accumulate their activity using device-based measures may highlight how active play contributes to overall activity levels and inform benchmarks for activity play using such technology in the future.

- Children's play varies with age<sup>18</sup> and environments,<sup>18</sup> and is thought to have different developmental and health benefits across childhood.<sup>12</sup> A greater understanding of the active play behaviours that children and young people engage in is needed to ensure that diverse environments and experiences are provided for them to engage in such behaviours every day.<sup>12</sup>

- The COVID-19 pandemic has impacted children and young people's non-sport related physical activity levels.<sup>18</sup> Some reports suggest that children's levels of unstructured physical activity (both indoor and outdoor active play) initially increased during lockdowns,<sup>30</sup> with other reports indicating that children spent less time outdoors and had lower physical activity levels.<sup>18</sup> Examining the longer-term impacts of COVID-19 restrictions on active play on children and young people is needed to inform future strategies aimed at increasing active play.

### WHAT DO WE NEED TO DO?

The term 'play' is used to describe the types of activities that children engage in for enjoyment and recreation.<sup>31</sup> It includes expressive play, dramatic play, and co-operative play.<sup>32</sup> Play is generally considered to be freely chosen, intrinsically motivated, free from external rules, and is a goal in itself.<sup>33</sup> though there is no universal consensus on how play is defined.<sup>34</sup> Children have reported that active play encompasses physical activity that is free from rules and structure, and often occurs in a social context.<sup>35</sup> This highlights that activity levels, type of activity, and the context are key considerations in identifying and assessing active play.

There is a need to define and operationalise active play to assist with National and State/Territory surveillance of this behaviour. In the absence of this, AHKA considers active play to be:

When children and young people are engaged in physical activities that do not fall under other activity domains (i.e., NOT organised sport, structured activity at school, or active transport).

AHKA provides recommendations for the assessment of active play using device-based and self/proxy-report measures in Table 6.



**Table 6**  
Recommended objective and self/proxy-report methods and how to operationalise the data for Active Play

| Method Type   | Method/Question   | Age group | How to Operationalise   |
|---|---|-----------|---|
| <b>Objective — various wearable devices coupled observation</b> | For toddlers, pre-schoolers, children and young people report the time that they are engaged in active play (e.g., time spent in MVPA or light physical activity from both objective data collected and/or observations made).<br>Where possible make raw data available.   | 2-17yrs   |   |
| <b>Parent/Proxy-report</b>                                      | Thinking of active play, which is any physical activity that is <b>NOT</b> part of organised sport, physical activity done at school or active transport, and is <b>NOT</b> restricted by rules usually set and governed by adults — some examples of active play are kicking a ball against the wall, playing a game of tag with friends or playing on fixed equipment at a park.<br>In the past week how much time did your child spend engaged in active play on average per day?              | 2-10yrs   | There are no recommendations as to how to operationalise the data for 'Active Play' given there is no clear and universal definition or evidence-based guidelines/recommendations as to the amount of 'Active Play' that should be accumulated by children and young people every day/week. |
| <b>Self-report</b>  | Thinking of non-organised/unstructured physical activity, which is any physical activity that is <b>NOT</b> part of organised sport, physical activity done at school or active transport and is <b>NOT</b> restricted by rules usually set and governed by adults — some examples of active play are kicking a ball against the wall or running around with your dog at the park.<br>In the past week how much time did you spend engaged in non-organised physical activity on average per day? | 11-17yrs  |   |

Note: MVPA = Moderate- to vigorous-intensity Physical Activity; yrs = years.

## HOW CAN WE IMPROVE THE GRADE?

Provides recommendations for 'calls to action' to improve the grade in the future and where possible specific examples of what should be done.

## KEY FINDINGS

Highlights key findings that informed the grade for each metric. This year, key findings have been characterised as National, State/Territory or Supplementary data, where:

- + **National** — representative and primary source used to assign grades where possible.
- + **State/Territory** — representative and used to assign grades when national data were lacking.
- + **Supplementary** — collected at the state/territory level but not representative. Provided additional information but not used to assign grades.

## WHAT DO WE NEED TO DO?

Suggests objective and self/proxy-report methods and how to operationalise the data for each indicator. Collection of future data that attend to these suggestions will help ensure greater resolution and better estimates being reported.

# OVERALL PHYSICAL ACTIVITY LEVELS

2014

D-

2016

D-

2018

D-

2022

D-

## METRICS USED FOR RATING

Proportion of Australian children and young people who meet the Australian 24-hour movement guidelines (that align with the Global Recommendations on Physical Activity for Health for 5-17 years) and recommend:

- + **Infants (birth to 12 months)** be physically active several times a day including accumulating at least 30 minutes of tummy time while awake.
- + **Toddlers (1-2 years)** accumulate at least 180 minutes of physical activity of any intensity each day, including energetic play.
- + **Pre-schoolers (3-5 years)** accumulate at least 180 minutes of physical activity including at least 60 minutes of energetic play (moderate- to vigorous-intensity physical activity).
- + **Children and young people (5-17 years)** accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity per day, each day (Australian guidelines) or on average (Global Recommendations); and engage in vigorous activities and activities that strengthen muscle and bone on at least 3 days per week.

## Confidence Rating



Authored by: Kylie Hesketh, Katherine Downing, Sam Cassar (Deakin University)

## RATIONALE

- + National data suggest very few children and young people are meeting physical activity guidelines. Data at the state and territory level are more variable, suggesting anywhere between one in ten and two thirds of children and young people meet guidelines, with higher compliance amongst primary school-aged children than secondary school-aged students. No data were available for children younger than 5 years of age and data from only one source were available on meeting guidelines related to activities that strengthen muscle and bone, restricted to 15-17-year-olds. Data were available from fewer sources than for the 2018 Report Card and there was no clear evidence that physical activity levels in children have changed, hence the grade remains consistent with previous years.

## KEY FINDINGS

### National

- + Self-report data show that 8% of 14-15-year-olds,<sup>23</sup> 2% of 15-17-year-olds<sup>25</sup> and 16% of 12-17-year-olds perform at least 60 minutes of MVPA every day.<sup>26</sup>
- + Parent-report data show 10% of 5-18-year-olds perform at least 60 minutes of MVPA every day.<sup>27</sup>
- + Self-report data show that 16% of 15-17-year-olds engage in muscle and bone strengthening activities on at least three days per week and 22% accumulate at least 60 minutes of MVPA on 5-7 days per week.<sup>25</sup>

### State/Territory

- + Self- and parent-report data show that 19-67% of primary school-aged children accumulate at least 60 minutes of physical activity or MVPA every day during the past week.<sup>32, 33, 35-39</sup>
- + Self-report data show that 11-31% of secondary school-aged students accumulate at least 60 minutes of physical activity or MVPA every day during the past week.<sup>33, 35, 38-46</sup>

### Supplementary

- + Parents reported that 37% of pre-school and primary school-aged children, and 44% of secondary school-aged students were spending less time being physically active in March/April 2020 compared with pre-COVID-19 times.<sup>27</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + Broad-ranging policies and strategies are needed across settings to ensure children and young people are supported to engage in physically active lives, including support for uptake and continuation of physical activity at all stages across the first 18 years of life and beyond.
- + Children and young people need to be provided with opportunities to experience the broad range of physical activities available, both structured and unstructured. Opportunities should be varied and ensure equity for children and young people in all population groups (e.g., gender, cultural groups). This will help ensure all young people are equipped with a suite of physically active options that they can incorporate into their daily lives.
- + A particular focus is required on secondary school-aged students given the particularly low compliance with guidelines seen in this population and the importance of this life stage for establishing physically active lives to be carried through the transition to adulthood. Supportive social and built environments have been identified as key for this population group.<sup>58</sup>

## WHAT DO WE NEED TO KNOW?

- + There is a distinct lack of nationally representative and state-based data for younger children prior to school entry thus we are unable to comment on the proportion of children meeting physical activity guidelines for infants, toddlers, or pre-schoolers. Commitment from the Federal Government is needed to establish a consistent surveillance system that captures physical activity participation data for all children and young people aged 0-18 years.
- + There remains a lack of data on muscle and bone strengthening activities in most national and state-based data collections, precluding a clear understanding on proportion of children and young people meeting these guidelines.
- + Given the known limitations with self- and proxy-reported data, there is a need for incorporation of device-assessed physical activity into surveillance systems to provide a more objective picture of children and young people's physical activity levels.
- + Here, and in previous Australian Report Cards, grades are based on criteria of the Australian guidelines to meet targets of physical activity every day and this remains how most surveillance data are captured in Australia. The Global Recommendations set the same targets but require only that they be met on average. It remains unclear whether health benefits differ based on these criteria.



## WHAT DO WE NEED TO DO?

### HOW TO COLLECT THE DATA

Physical activity participation is complex and standardised methodologies for both objective and subjective measures should be considered, such as those suggested in Table 3, to facilitate comparison across studies. For objective assessment children should be monitored for at least 3 days and ideally for 7 days.<sup>59</sup> Researchers should report activity time (e.g., minutes MVPA and light physical activity) or step counts for each day (that data was collected on) and as a daily average. Operationalisation of the primary metric is also important. Depending on how compliance with physical activity guidelines is operationalised (i.e., at least 60 minutes EVERY day, on MOST days or for 60 minutes ON AVERAGE over the week), very different estimates of compliance are reported.<sup>60</sup>

With national evidence on physical activity in young children (0-5 years) currently lacking, there is a need to include this population in surveillance activities. Objective, device-based assessment of physical activity follows the same recommendations as for older children, with the use of age-appropriate cut-points to define different intensities of physical activity. Parent/proxy-report measures for specific age groups are suggested in Table 3.

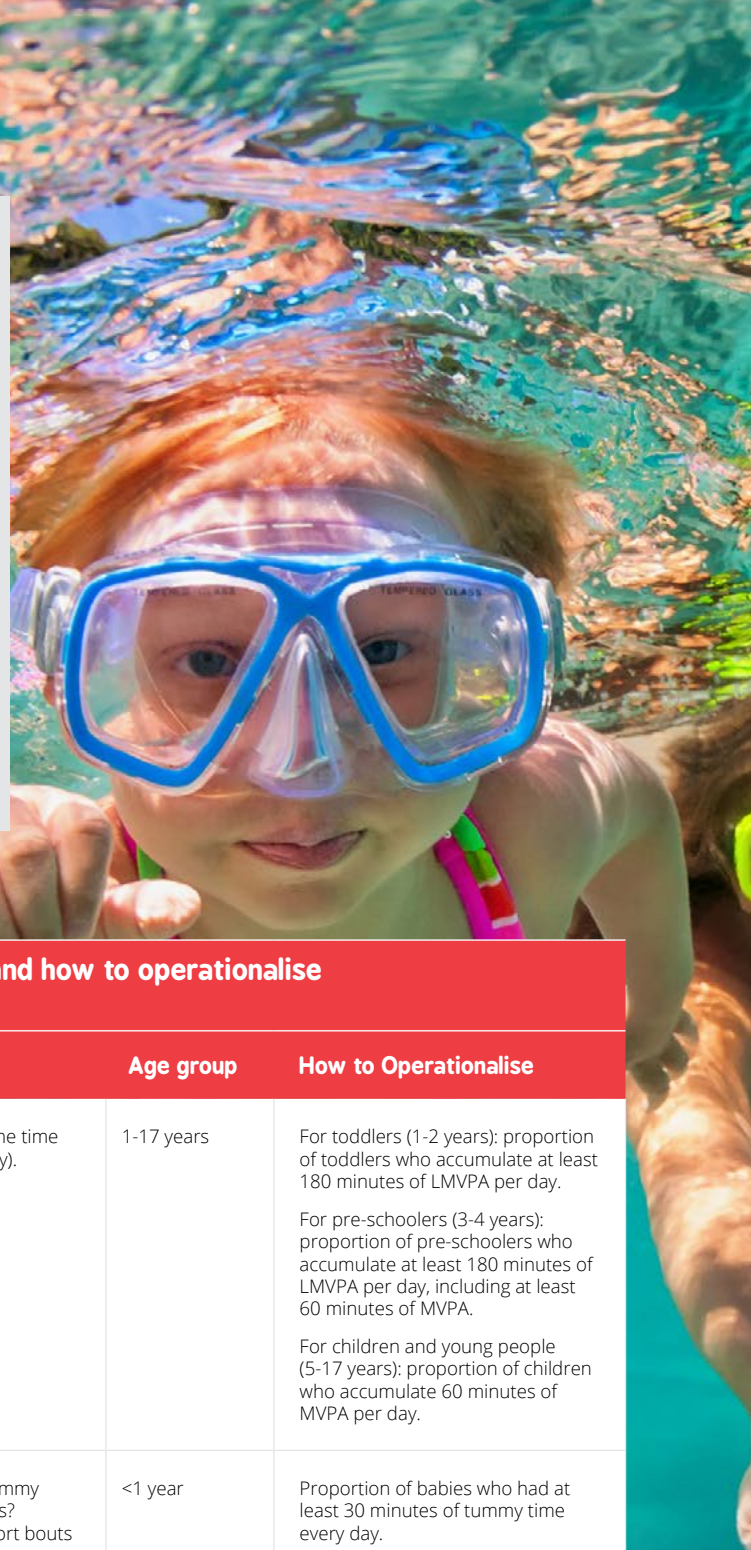


Table 3

### Recommended objective and self/proxy report methods and how to operationalise the data for Overall Physical Activity

| Method Type                                 | Method/Question   | Age group  | How to Operationalise  |
|---|---|------------|--|
| <b>Objective – various wearable devices</b> | For toddlers, pre-schoolers, children and young people report the time they are engaged in LPA, MVPA and LMVPA (total physical activity).<br><br>Where possible make raw data available.  | 1-17 years | For toddlers (1-2 years): proportion of toddlers who accumulate at least 180 minutes of LMVPA per day.<br><br>For pre-schoolers (3-4 years): proportion of pre-schoolers who accumulate at least 180 minutes of LMVPA per day, including at least 60 minutes of MVPA.<br><br>For children and young people (5-17 years): proportion of children who accumulate 60 minutes of MVPA per day. |
| <b>Parent /proxy report</b>                 | Over the past 7 days, on how many days did your infant have tummy time (placed on their tummy while awake) for at least 30 minutes? Tummy time can be accumulated over the entire day (e.g., in short bouts that add up to 30 minutes across the day).  | <1 year    | Proportion of babies who had at least 30 minutes of tummy time every day.  |
|   | Over the past 7 days, on how many days did your child engage in active play (not seated or standing still) for at least 3 hours, including some play that makes their heart rate increase and makes them out of breath? Active play can be accumulated over the entire day (e.g., in short bouts that add up to 3 hours across the day)                     | 1-2 years  | Proportion of toddlers who had at least 3 hours of active play every day   |
|   | Over the past 7 days, on how many days did your child engage in physical activity or active play for at least 3 hours, including at least 1 hour of high energy play that made their heart rate increase and made them out of breath? Physical activity can be accumulated over the entire day (e.g., in short bouts that add up to 3 hours across the day) | 3-4 years  | Proportion of pre-schoolers who had at least 3 hours of physical activity or active play, including at least 1 hour of high energy play, every day.  |
| <b>Self and parent /proxy report</b>        | Over the past 7 days, on how many days were you/your child engaged in moderate to vigorous physical activity (activity that increases heart rate and gets you/your child out of breath some of the time) for at least 60 minutes? Physical activity can be accumulated over the entire day (e.g., in short bouts that add up to 60 minutes across the day). | 5-17 years | Proportion of children who had at least 60 minutes of moderate to vigorous physical activity every day.  |

# BEYOND THE GRADE

Authored by:

*Professor Kylie Hesketh, Institute for Physical Activity and Nutrition, Deakin University*

*Dr Katherine Downing, Institute for Physical Activity and Nutrition, Deakin University*

## **What will the longer-term effects of COVID-19 be on children's physical activity?**

The COVID-19 global pandemic brought with it several changes in people's physical activity habits. These were, in large part, a result of government restrictions on movement to prevent the spread of the virus. Thus, children living in different jurisdictions were impacted in different ways and different forms of physical activity have been differentially impacted. Even within jurisdictions experiencing restrictions, the exact nature of the restrictions varied between areas and over time e.g., the amount of time people were permitted to leave their home for exercise; periods of time where children's playgrounds were closed; and restrictions to the distance people could travel from home.

While overall, fewer children and young people in Australia were meeting physical activity guidelines during lockdown compared to before the pandemic,<sup>61</sup> parents in different states have reported differing views on their children's physical activity levels during COVID-19 restrictions. For example, parents in New South Wales reported that their children's physical activity decreased, with most children being active at home and around half going to public spaces.<sup>62</sup> In contrast, parents in Western Australia reported that their children were more physically active during COVID-19 restrictions because they played more with other children in local streets, used neighbourhood spaces (e.g., parks) more for physical activity, had more unstructured physical activities as a result of the suspension of organised sport, and because parents themselves actively tried to increase physical activity to manage family mental health challenges.<sup>63</sup>

Short-term restrictions that have impacted children's physical activity patterns are closure of schools and childcare, resulting in less peer interaction that is known to be associated with greater physical activity.<sup>64-66</sup> The suspension of organised sport saw declines in organised physical activity in school-aged children, but resulted in increases in unstructured physical activity, outdoor play in the yard or street, outdoor play in the park, playground or outdoor recreation area, and active indoor play at home.<sup>63</sup>

In addition, although COVID-19 restrictions may have reduced overall physical activity in young people, the increase in use of digital platforms (that often promote bodyweight exercises that can be performed in a confined space) in this population may have been beneficial for muscle and bone strengthening.<sup>22</sup> It is likely, as seen internationally,<sup>67</sup> that different socio-economic groups within our society have been unequally impacted, with this also translating to children.

We have seen impacts on lifestyle that may continue to influence children's physical activity into the future. For example, shifts have been seen in population geography across and within states, in particular an increase in the number of people choosing to live in regional areas. Changes in parent work patterns with the shift to working from home, and predicted increase in workplace flexibility into the future, means parents may spend more of their time at home and have greater flexibility to facilitate transport and co-participation in physical activity.<sup>63</sup> Investment in regular surveillance data to ensure trends are captured and monitored will be even more important during this time of transition.

Data across the past four report cards (all D-) indicate that we were far from achieving optimal levels of physical activity for our children before COVID-19 hit. It remains to be seen whether the shift in societal norms and values and habitual behaviours that have accompanied the pandemic will see changes in children's activity levels into the future, whether any changes will be seen equally across population groups or will serve to increase or decrease inequity, and whether any changes will be disproportionate across states most or least impacted by the restrictions enacted to protect the public's health.

**The suspension of organised sport saw declines in organised physical activity in school-aged children, but resulted in increases in unstructured physical activity...**



**We have seen impacts on lifestyle that may continue to influence children's physical activity into the future...**





# ORGANISED SPORT AND PHYSICAL ACTIVITY PARTICIPATION

2014  
B-

2016  
B

2018  
B-

2022  
B-

## METRICS USED FOR RATING

Proportion of Australian children and young people participating in organised sport and/or physical activity at least once per week.

## Confidence Rating



Authored by: Sjaan Gomersall, Michalis Stylianou, Stephanie Duncombe (The University of Queensland)

## RATIONALE

This year's grade was informed by new national and state/territory data.<sup>23, 26, 30, 34, 43</sup> New national data show a small overall decline in organised sport/physical activity participation since 2018, although patterns of participation across ages remain the same.<sup>30</sup> Participation is lower among children in the early years (0–4 years) and those aged 5–8 years. Participation peaks in the years leading up to adolescence (9–12 years) and then starts to decline. There is no evidence of an overall change in participation rates and fewer data are available for 'regular' participation compared to 2018. Therefore, the grade is the same, but the confidence rating has been reduced to two stars.

## KEY FINDINGS

### National:

- + Self-report data from parents show that 27%, 63%, 77%, and 71% of children aged 0–4, 5–8, 9–11, and 12–14 years, respectively, participate in organised sport and physical activity at least once per week outside of school hours.<sup>30</sup>
- + Self-report data from secondary school-aged students (12-to-17-year-olds) show that 71% participated in organised sport outside of normal school hours at some point in the last 12 months.<sup>26</sup>
- + Self-report data from secondary school-aged students (14-to-15-year-olds) show that 51% regularly participate in team sport and 27% regularly participate in individual sport outside of school hours.<sup>23</sup>

### State:

- + Self-report data from students show that 82%<sup>34</sup> and 67%<sup>43</sup> of secondary school-aged students (12-to-17-year-olds) participated in organised sport outside of normal school hours at some point in the last 12 months or on an average school day, respectively.

### Supplementary:

- + Self-report data from parents show that 53% of students in grades 4 to 9 participate in organised individual or team sports at least once per week during weekday afternoons outside of school hours (e.g., from 3–6 pm).<sup>52</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + As the sporting landscape transforms and different sports gain popularity,<sup>68</sup> it will be important to consider broadening our definition of 'organised sport' to include various lifelong and action sports (e.g., skateboarding, climbing, surfing, snowboarding) that do not fall under the traditional definition.<sup>69</sup> Early evidence indicates that these sports are increasing in popularity and contribute to children and young peoples' physical activity.<sup>70</sup> It is likely that their popularity will continue to rise based on their recent exposure at the Tokyo Olympics in 2021 and they will be important to consider as we look ahead to the Brisbane Olympics in 2032.

- + It is essential that we continue to strive for equitable access to sport for all children and young people in Australia. This is in line with Sport Australia's inclusive sport framework,<sup>71</sup> and needs to extend across a range of factors including gender, migration status, income level, location, sexual orientation, and disability status.
- + More effort needs to be given to the retention of children and young people currently participating in organised sport as there is a high dropout rate throughout adolescence.<sup>72</sup> To achieve this, it will be essential to promote participatory enjoyment, a welcoming environment, parental engagement, and trained coaching staff that can support an engaging environment.<sup>73, 74</sup>

## WHAT DO WE NEED TO KNOW?

- + While participation rates in organised sport are high within Australia, it is necessary to know the contribution that sport has to children and young people's total physical activity levels. Research demonstrates that the level of physical activity differs between sports and that it is likely that participating in only one session a week is insufficient for achieving guidelines.<sup>75, 76</sup> Information on the frequency, duration, and intensity of the sessions as well as teaching/coaching practices is needed to properly assess the quality of both training and competition.
- + To further understand children and young people's access to sport, it is necessary to record factors that are known to influence participation (e.g., gender, disability status, income level, sexual orientation, migration status) and examine participation rates with an intersectional approach that encompasses all these influences.<sup>77</sup>
- + We need to continue investigating why children and young people drop out of organised sport and additionally, consider the consequences of COVID-19 and the associated restrictions on sport participation. It will be important to monitor participation rates to understand if children and young people return to sport at a level equivalent to that before COVID-19, or if (or how) the pandemic influences future engagement and retention.<sup>78</sup>

## WHAT DO WE NEED TO DO?

We recommend the objective and self/proxy-report methods shown in Table 4. This will help us understand the duration, frequency, and intensity of physical activity undertaken during organised sport for both individual and team sports.<sup>79</sup> Additionally, it is important to record and evaluate the factors that potentially influence participation in organised sport such as gender, disability status, income level, sexuality, and migration status to target specific populations with lower rates of initial participation or that have been declining over time.



Table 4

**Recommended objective and self/proxy-report methods and how to operationalise the data for Organised Sport/Physical Activity Participation**

| Method Type  | Method/Question   | Age group                   | How to Operationalise  |
|--|---|-----------------------------|--|
| <b>Objective — various wearable devices coupled with observation</b> | <p>For training and competitive games, report the time that children and young people are active (e.g., time spent in MVPA or light physical activity from both objective data collected and/or observations made) either in minutes per session or as a proportion of the whole session time.</p> <p>Where possible make raw data available.</p>   | 2–17yrs                     | To be used as descriptive data only.   |
| <b>Self- and Parent/Proxy-report</b>                                 | <p>Have you/has your child participated in organised team sports and/or physical activity (e.g., basketball, football, netball) on a regular basis outside of school hours* (at least once a week for at least 1 school term or an entire sporting season) over the past year?</p> <p><b>AND</b></p> <p>Have you/has your child participated in organised individual sports and/or physical activity (e.g., martial arts, dance) on a regular basis outside of school hours* (at least once a week for at least 1 school term or an entire sporting season) over the past year?</p> | PR: 2–10yrs<br>SR: 11–17yrs | Proportion of Australian children and young people regularly participating (at least once per week for at least 1 school term or an entire sporting season) in organised team/individual sports and physical activity in the past 12-months. |

Note, MVPA = moderate- to vigorous-intensity physical activity; PR = Parent/proxy-report; SR = Self-report; yrs = years.

\*Any organised sport or physical activity participated in outside of normal school hours, this includes any sport or activity for which they are representing their school as long as it occurs outside of school start and finish times.

# BEYOND THE GRADE

Authored by:

*Dr Emma Beckman, Senior Lecturer in Clinical Exercise Physiology, School of Human Movement and Nutrition Sciences, The University of Queensland*

*Dr Sarah Reedman, Research Fellow in Cerebral Palsy and Rehabilitation Research, Child Health Research Centre, The University of Queensland*

## ORGANISED SPORT FOR ALL ABILITIES

Australia ranks highly among other nations regarding children and young people's participation in organised sport.<sup>80</sup> However, this statistic doesn't tell the whole story. More than 7% of Australian children aged 0–14 years live with a disability.<sup>81</sup> Recent research from the United States indicates that a significantly lower proportion of children with a disability participate in sports and physical activities compared to children without a disability.<sup>82</sup> Unfortunately, there are no recent, nationally representative Australian data on participation rates for children with a disability. The current AusPlay survey only asks questions about disability for adults.<sup>83</sup> While this increases the challenge in identifying the scope of the problem, some research is available. In one small Victorian study conducted between 2009 and 2010, children with a disability were less likely to participate in both team sports and non-team sports compared to children without a disability, matched by several demographic characteristics.<sup>84</sup> Type of disability was also associated with the magnitude of disparity. For example, just 40% of children with a physical disability reported that they participated in a team sport in the last four months compared to 79% of children without a disability.<sup>84</sup>

There also appears to be a clear link between the severity of impairment and the level of participation. A study of Australian children and adults found that higher levels of support (indicating higher impairment) were associated with increased barriers to sports participation.<sup>85</sup> This is similarly reflected in the Para Sport Classification Master Lists published by organisations such as Athletics Australia. This database shows that 633 children with a disability hold an Athletics classification nationwide, however only 30, or less than 5%, are participating in classes for athletes with high support needs.<sup>86</sup> There is a requirement for increased knowledge and opportunity for children and young people with moderate to severe impairments to participate in sports.

Sport is a subset of physical activity, and is defined as “an institutionalised, competitive activity that involves vigorous physical exertion or use of relatively complex physical skills” (p20).<sup>87</sup> Previous research has predicted the benefits of sport

may far exceed benefits of other types of physical activity for children with a disability, primarily due to the high volume nature of sports training.<sup>88</sup> Sport is also in current public consciousness in Australia, with the recent announcement of Brisbane as the host of the 2032 Olympic and Paralympic Games. The Paralympic Games is the 3rd largest sporting event in the world, and while there is some contention of the lasting legacy of Olympics in non-disabled people, previous research has demonstrated positive impacts from the Paralympic Games on community perceptions of young people with a disability.<sup>89</sup> Brisbane 2032 provides an opportunity for all children with a disability to strive for sporting excellence, but none more so than people with high support needs, given the reduced travel requirements and costs associated with carers and support staff.

Australia has developed some world-leading initiatives to improve sports participation for children with a disability. These include:

- + Access for All Abilities Play, Australia's only dedicated sports and recreation referral and connection service for people with a disability living in Victoria.<sup>90</sup>
- + AllPlay Move: Footy, a joint initiative between Deakin University and the AFL to promote inclusion in AFL programs (e.g., NAB AFL Auskick).<sup>91</sup>
- + Interventions aimed to help children and young people with disabilities achieve their sports and physical activity goals. FitSkills,<sup>92</sup> ParticiPate CP,<sup>93</sup> ParaSTART,<sup>94</sup> and SPORTS STARS<sup>95</sup> build the capacity of activity providers/coaches, community members, families, and children to foster sports inclusion through: development of fundamental movement skills, performance-focused sports training, family self-advocacy, physical activity behaviour change, and health professional-community partnerships.


As researchers, policy makers, educators, clinicians, sports leaders, and community members, it's our role to make sports inclusive. We issue a call to action for all to follow the Sport Australia Inclusive Sports Framework<sup>71</sup> as we approach Brisbane 2032 so that sports and physical activity opportunities, interventions, and policy explicitly meet the needs and uphold the human rights of Australian children and young people with a disability.

**Brisbane 2032 provides an opportunity for all children with a disability to strive for sporting excellence.**



A photograph of three children in starting blocks on a red running track. In the foreground, a girl with two long braids, wearing a blue sleeveless top and grey leggings, is smiling at the camera. Behind her, a boy in a grey sleeveless top and dark shorts is also smiling. To his right, another child in a bright yellow-green shirt is partially visible. They are all in a starting crouch on a red track with white lane markings. The background shows a clear blue sky with some clouds and bare trees.

**633 children in Australia  
with a disability hold an  
Athletics classification  
nationwide...**

| ACTIVE<br>TRANSPORT   | 2014 <sup>†</sup><br>C | 2015 <sup>†</sup><br>C | 2016<br>C- | 2018<br>D+ | 2022<br>D+  |
|---|------------------------|------------------------|------------|------------|---|
| <b>METRICS USED FOR RATING</b><br>The proportion of Australian school children and young people for whom active transport (any form of human powered transportation e.g., locomotion on foot, bicycle, skateboard) is their usual mode of transport to and from school for at least part of the journey. "Usual" is defined as at least 5 trips out of 10 or on at least 2.5 school days, or child/parent indicates active transport is their usual mode. |                        |                        |            |            |   |
| <b>Confidence Rating</b>  |                        |                        |            |            |  |

Authored by: Michalis Stylianou, Sjaan Gomersall, James Woodforde (The University of Queensland)

## RATIONALE

Two sets of new, nationally representative data were available to inform this indicator for the current Report Card. Despite the new data, the range of participation rates are similar to those reported in the 2018 Report Card. National data sets were weighted more heavily than state/territory data in determining the grade.

## KEY FINDINGS

### National:

- + Self-report data from parents show that 23% of primary school students (5–12-year-olds) and 16% of secondary school-aged students (13–18-year-olds) usually travel to/from school using active transport.<sup>28</sup>
- + Self-report data from students show 52% of secondary school students (12–17-year-olds) walk or cycle to/from school at least once per week.<sup>26</sup>
- + Self-report data from students show 31% of secondary school students (12–17-year-olds) walk or cycle to/from school every day.<sup>26</sup>

### State:

- + Proxy-report data from parents show 40% of primary and secondary school students (5–15-year-olds) usually travel to school using active transport (boys: 41%; girls: 39%).<sup>39</sup>
- + Self-report data show 45% of primary and secondary school students (5–17-year-olds) travel to/from school using active transport at least once per week.<sup>34</sup>
- + Self-report data show 45% of secondary school students (12–17-year-olds) walk to/from school at least once per week and 7% cycle.<sup>43</sup>

### Supplementary:

- + Self-report data show 53% of 9–10-year-old and 46% of 11–12-year-old male primary school students as well as 61% of 9–10-year-old and 55% of 11–12-year-old female primary school students usually travel to/from school using active transport.<sup>53</sup>
- + Self-report data show 30% of male and 25% of female primary school students (9–12-year-olds) usually travel to/from school using active transport.<sup>54</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + Traffic safety (e.g., high-volume traffic, dangerous driver behaviour) is consistently identified by parents as a barrier to children's active transport.<sup>96</sup> Schools and policymakers need to consider methods to improve the perceived safety of routes to school in a way that will promote active transport. Reduced speed limits and built environment modifications could improve parental perceptions of safety and enhance the appeal of walking or cycling to school.<sup>97–99</sup>

- + Increased distances between home and school have contributed to perceptions of motorised transport as the most convenient choice.<sup>96</sup> Distance and convenience need to be directly targeted by interventions, given that expanding school catchment areas<sup>100</sup> and regional or remote living<sup>101</sup> can be major barriers for active transport. Remote drop-off programs may be a feasible option for supporting active transport for children facing distance barriers, where students are dropped off or picked up by personal vehicle or public transport a walkable distance from school.<sup>102</sup>
- + Discussions need to continue regarding the value, safety, and societal expectations of independent mobility. Independent mobility, defined as children's freedom to travel unsupervised, is positively associated with active transport.<sup>103</sup> While parents may limit their child's independent mobility for safety concerns,<sup>104</sup> initiatives that educate parents on the developmental benefits of learning to navigate their environment independently ('risk reframing') require further attention.<sup>105</sup>
- + As school policies and practices are strongly associated with children's active transport behaviours, schools need to be supported in implementing active travel best practice.<sup>106</sup> Policies and practices implemented by schools could focus on structured programs (e.g., walking school bus) and education strategies (e.g., bicycle training).<sup>107</sup> Support for such initiatives may come from partnerships between schools and community volunteers, organisations or local government.

## WHAT DO WE NEED TO KNOW?

- + We need to continue monitoring active transport to and from school, to understand how travel behaviours may change in areas where children have experienced long periods of time away from school because of the COVID-19 pandemic.
- + Nationally representative data are needed regarding children's active transport to and from additional destinations (e.g., parks, sport clubs, shops). While most available data focus on trips to and from school, the importance of actively traveling to other destinations has been highlighted during the COVID-19 pandemic, when school attendance is variable. Active trips to other destinations close to a child's home may also be a feasible way for a child to accumulate physical activity when they live too far from school.
- + It may be useful to collect data about mode of travel and use of increasingly popular electric assisted mobility devices, such as e-bikes.<sup>108</sup> This can promote greater contextual reporting and inform discussions about potentially re-visiting the definition of active transport, currently defined exclusively as human powered transportation.
- + While benefits of traffic-calming measures for road safety are reported in the literature, more research is needed to examine how the introduction of these measures affects children's active transport behaviours.<sup>98</sup>
- + We need more longitudinal data on how children's independent mobility changes over time, and what factors influence this.<sup>109</sup> Interventions targeting multiple levels of influence and multiple stakeholders should be developed to promote independent mobility and active transport.<sup>110</sup>

<sup>†</sup>Previously, the primary metric for 'Active Transport' was the "proportion of Australian children and young people travelling to and/or from school using active transport (at least once per week)".

<sup>\*</sup>Active transport is defined as any form of human powered transportation (e.g., locomotion on foot, or bicycle, skateboard, etc.).



## WHAT DO WE NEED TO DO?

The state/territory data contributing to this grade demonstrate inconsistent approaches to the measurement of children's active transport behaviours. Some data provide information about the proportion of students using active transport as their usual mode of transport, while other data provide information regarding students' active transport once per week. Using the recommended methods outlined in Table 5 as standardised measures of active transport will improve comparability between available datasets and enhance our confidence in assigning a grade for this indicator.

Methods of assessing active transport must adapt to the increasing uptake of electronic mobility, such as e-bikes. E-bikes, when being pedalled with some assistance from

the electric motor, can provide physical activity of at least moderate intensity.<sup>111</sup> Other electric mobility devices, such as e-scooters, may not require physical activity by the rider but could still promote some level of active transport (e.g., walking to device). Therefore, when collecting data for this indicator it may be important to consider how to best capture information about the use of electronic mobility devices, beyond collecting information about active transport that is strictly human powered. To address this, we recommend collecting self- or proxy-report data on 'usual mode of active transport' to supplement data on frequency and duration of travel. In the future, it may be useful to collect information that allows for distinguishing between active travel, assisted travel and passive travel when using bikes and scooters.

Table 5

### Recommended self/proxy-report methods and how to operationalise the data for Active Transport

| Method Type                           | Method /Question   | Age group                   | How to Operationalise   |
|---------------------------------------|--|-----------------------------|---|
| <b>Self- and Parent /Proxy-report</b> | On how many of the past 5 school days did you/your child travel to (or part of the way to*) school by walking, cycling or some other form of active transport?<br><br>How long in minutes was the active part of each trip (on average)?<br><br>What is the usual form of active transport?<br><b>Answer:</b> walking; cycling; other, please specify<br><b>AND</b><br>On how many of the past 5 school days did you/your child travel from (or part of the way from*) school by walking, cycling or some other form of active transport?<br><br>How long in minutes was the active part of each trip (on average)?<br><br>What is the usual form of active transport?<br><b>Answer:</b> walking; cycling; other, please specify | PR: 5–10yrs<br>SR: 11–17yrs | Proportion of Australian school children for whom active transport is their usual mode <sup>#</sup> of transport to and from school for at least part of the journey*.<br><br>*The active transport part of the trip must have taken at least 10 minutes. |
|                                       | In the past week how often did you/your child travel from place to place (not including to/from school) all or part of the way* by walking, cycling or some other form of active transport?<br><b>Answer:</b> Every day; Most days (5–6); Some days (3–4); Not many days (1–2); Never<br><br>What is the usual form of active transport?<br><b>Answer:</b> walking; cycling; other, please specify   | PR: 5–10yrs<br>SR: 11–17yrs | Proportion of Australian children and young people using active transport, all or part of the way* to destinations (not including to/from school) on at least 3 of the past 7 days.   |

Note, PR = Parent/proxy-report; SR = Self-report; yrs = years.

\*Usual is defined as at least 5 trips out of 10 or on at least 2.5 school days or child/parent indicates active transport is their usual mode.

# BEYOND THE GRADE

Authored by:

Dr Paul Tranter, Honorary Associate Professor,  
School of Science, UNSW Canberra

## AN OPPORTUNITY IN CRISIS: RE-IMAGINING CHILDREN'S ACTIVE TRAVEL DURING COVID-19

Until COVID-19 changed our cities in unprecedented ways, children's active travel, independent mobility and outdoor play were declining in Australia.<sup>112, 113</sup> Children's mobility increasingly involved car trips to school, sport, and friends. COVID-19 provided a circuit breaker for our addiction to cars and speed.<sup>114</sup> Many parents reported enjoying a slower pace of life,<sup>115</sup> with less pressure to rush to sporting events.<sup>116</sup> Widespread lockdowns and limitations to motorised movement produced startling, unforeseen consequences that point the way towards a future of increased active travel.

COVID-19 lockdowns provided an opportunity to experience neighbourhoods with less traffic and with more people of all ages walking and cycling. Outdoor play in local streets significantly increased,<sup>63</sup> even in suburbs where this was rare before COVID-19. Children decorated sidewalks with chalk, and local residents placed teddy bears and rainbow images in windows and gardens, providing children with enjoyable and socially distant treasure hunts.

Why did children suddenly re-appear on the streets? One key reason was that parental fears of both traffic danger and stranger danger were reduced. Motorists drive more slowly when there are people in the streets. More people walking and cycling provides a 'safety in numbers' effect, with more eyes on the street providing passive surveillance for children. Fewer and slower cars make streets quieter, which makes walking and cycling more pleasant for everyone.<sup>117</sup> The presence of children helps to boost the sense of local community: children are very effective at breaking down the learned reserve between adults.<sup>118</sup>

Because of these responses to the pandemic, people in cities throughout the world experienced –inadvertently – elements of what a more active, child-friendly city could offer. Now that they have seen the transformation with their own eyes, heard it with their own ears and breathed it with their own lungs, they can appreciate more personally what they have been losing, bit by bit, from a lifetime's pursuit of speed in the city. No longer can a city with high levels of the slower, active modes be regarded as a far-fetched dream of what we might imagine in a future utopia.

The challenge will be maintaining high levels of children's active travel post-COVID-19. If a 'return to normal' means streets dominated by cars, this must be resisted. What can be done to maintain the active travel benefits prompted by COVID-19?

Here are two suggestions.

1. Taming traffic, particularly in residential streets,<sup>98</sup> given the "empirical evidence that traffic speed and volume reduces physical activity, social contacts and children's play".<sup>119</sup> There is strong support in Australia for lower speed limits in non-arterial roads.<sup>120</sup> 30 km/h is the standard limit in non-arterial roads in many nations with high levels of children's independent mobility (e.g., Japan, the Netherlands, Finland, Denmark and Germany).<sup>121</sup>
2. Introducing 'play streets'. Though play streets may not be viable across entire cities, they are affordable, sustainable, and applicable in a range of areas, and are hugely beneficial for children and the wider community. They "show people how their lives would be improved if their neighbourhoods were less car-dominated".<sup>122</sup>

As well as COVID-19 providing opportunities to promote children's active travel, policies to encourage active travel provide an effective long-term response to COVID-19 and future pandemics. Active travel allows physical distancing in outdoor environments, promotes physical fitness, and decreases air pollution by reducing car travel.<sup>123</sup> Lower pollution levels are critical for COVID-19 resilience: cities experiencing higher deaths from COVID-19 (which attacks the lungs) are those where particulate pollution (linked to lung disease) was elevated by motorised traffic in pre-pandemic years.<sup>124</sup>


The World Health Organization predicts that COVID-19 will not be the last pandemic we will face: the need for preparedness for the next one is urgent.<sup>125</sup> Promoting active transport through safer streets for children will help make our cities more resilient in the face of future pandemics.



*Japan provides a good model for Australia in terms of children's active travel. It has exceptionally high rates of active transport to school and low speed limits in residential streets.*

*(Credit: Uniform by Photocopy <https://www.flickr.com/photos/photocopy/249987635/>)*



A full-page photograph of a man, a young boy, and a dog walking on a paved path. The man, on the left, is wearing a light blue and white striped t-shirt and dark blue cargo shorts. He is smiling and holding a red leash for a brown and white spotted dog. The boy, on the right, is wearing a bright blue t-shirt and camouflage shorts. He is also smiling. The background is filled with lush green trees and foliage, with sunlight filtering through the leaves. The overall mood is bright and positive.

**COVID-19 lockdowns provided an opportunity to experience neighbourhoods with less traffic and with more people of all ages walking and cycling.**



# ACTIVE PLAY

2014  
INC

2016  
INC

2018  
INC

2022  
INC

## METRICS USED FOR RATING

No consensus on a primary metric could be reached.

## Confidence Rating

N/A

Authored by: Nicola Ridgers (Deakin University)

## RATIONALE

This 'Incomplete' grade reflects the lack of consensus as to how to operationalise 'Active Play'. There is currently no single metric that defines active play across different age groups, and no developed national benchmark that determines whether children and young people are engaging in sufficient active play.

## KEY FINDINGS

### National:

- + Parent-report data shows that 42% of children aged 5–18 years spent less time going outside for physical activity during 2020.<sup>27</sup>

### State/Territory:

- + Parent-report data show that 93% of children aged 5–17 years participated in recreational and/or non-organised physical activity.<sup>34</sup>

### Supplementary:

- + Self-report data<sup>56</sup> show that males aged 10–18 years engage in more active play, non-organised, and recreational physical activity (116 minutes/day) compared to females (88 minutes/day).

## HOW CAN WE IMPROVE THE GRADE?

- + Opportunities for engaging in active play need to be provided every day in home, school, and community settings. This may include free play opportunities during recess and lunchtime,<sup>126</sup> providing natural play spaces and loose materials (e.g., twigs, rocks, pebbles, sand) in community settings,<sup>127, 128</sup> and providing play equipment (e.g., balls, jump rope) at home.<sup>127</sup>
- + Outdoor play has multiple benefits for children's healthy growth and development.<sup>128</sup> Providing support to address child and parental concerns about outdoor play (e.g., injury, risk, neighbourhood safety,<sup>129, 130</sup> and increasing connectedness to nature through programs such as outdoor play events<sup>131</sup> could potentially increase active play levels for children and young people.
- + Risky outdoor play — thrilling and exciting play that has uncertainty and increased physical injury risk — provides children and young people with the opportunity to develop risk management strategies.<sup>132, 133</sup> There is a need to design diverse environments that facilitate risky play opportunities for children and young people.

## WHAT DO WE NEED TO KNOW?

- + Active play is usually intermittent, involving short bursts of moderate- to vigorous-intensity physical activity interspersed with sedentary and light physical activity.<sup>134</sup> The transitory nature of children's play can be difficult to assess using parent- or self-report measures.<sup>135</sup> Examining the way in which children accumulate their activity using device-based measures may highlight how active play contributes to overall activity levels and inform benchmarks for activity play using such technology in the future.
- + Children's play varies with age<sup>128</sup> and environments,<sup>136</sup> and is thought to have different developmental and health benefits across childhood.<sup>137</sup> A greater understanding of the active play behaviours that children and young people engage in is needed to ensure that diverse environments and experiences are provided for them to engage in such behaviours every day.<sup>127</sup>
- + The COVID-19 pandemic has impacted children and young people's non-sport related physical activity levels.<sup>138</sup> Some reports suggest that children's levels of unstructured physical activity (both indoor and outdoor active play) initially increased during lockdowns,<sup>63</sup> with other reports indicating that children spent less time outdoors and had lower physical activity levels.<sup>139</sup> Examining the longer-term impacts of COVID-19 restrictions on active play on children and young people is needed to inform future strategies aimed at increasing active play.

## WHAT DO WE NEED TO DO?

The term 'play' is used to describe the types of activities that children engage in for enjoyment and recreation.<sup>140</sup> It includes expressive play, dramatic play, and co-operative play.<sup>141</sup> Play is generally considered to be freely chosen, intrinsically motivated, free from external rules, and is a goal in itself,<sup>140</sup> though there is no universal consensus on how play is defined.<sup>128</sup> Children have reported that active play encompasses physical activity, is free from rules and structure, and often occurs in a social context.<sup>142</sup> This highlights that activity levels, type of activity, and the context are key considerations in identifying and assessing active play.

There is a need to define and operationalise active play to assist with National and State/Territory surveillance of this behaviour. In the absence of this, AHKA considers active play to be:

When children and young people are engaged in physical activities that do not fall under other activity domains (i.e., NOT organised sport, structured activity at school, or active transport).

AHKA provides recommendations for the assessment of active play using device-based and self/proxy-report measures in Table 6.

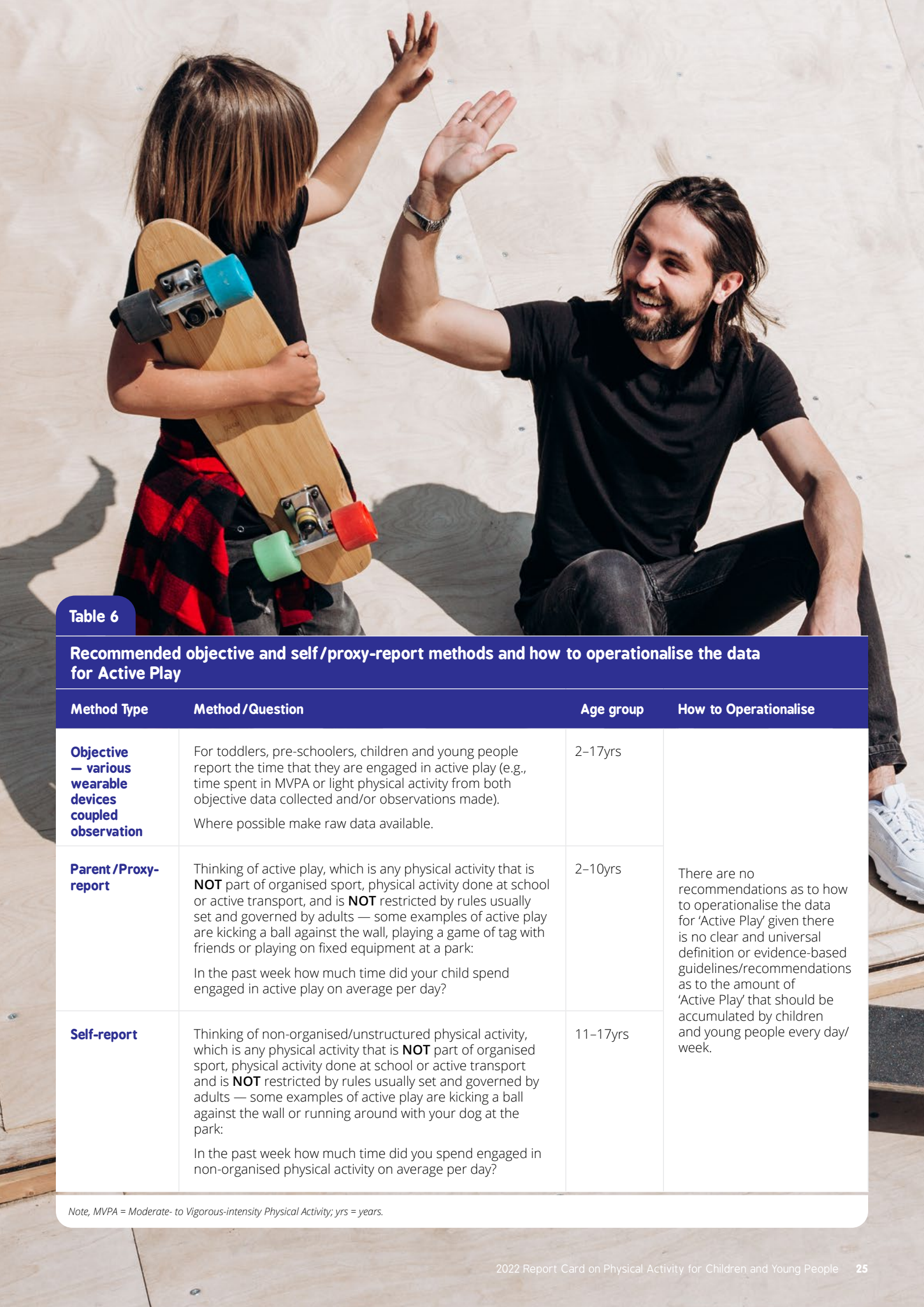


Table 6

Recommended objective and self/proxy-report methods and how to operationalise the data for Active Play

| Method Type   | Method /Question  | Age group | How to Operationalise  |
|---|---|-----------|--|
| <b>Objective — various wearable devices coupled observation</b> | For toddlers, pre-schoolers, children and young people report the time that they are engaged in active play (e.g., time spent in MVPA or light physical activity from both objective data collected and/or observations made).<br><br>Where possible make raw data available.   | 2–17yrs   | There are no recommendations as to how to operationalise the data for 'Active Play' given there is no clear and universal definition or evidence-based guidelines/recommendations as to the amount of 'Active Play' that should be accumulated by children and young people every day/ week. |
| <b>Parent /Proxy-report</b>                                     | Thinking of active play, which is any physical activity that is <b>NOT</b> part of organised sport, physical activity done at school or active transport, and is <b>NOT</b> restricted by rules usually set and governed by adults — some examples of active play are kicking a ball against the wall, playing a game of tag with friends or playing on fixed equipment at a park:<br><br>In the past week how much time did your child spend engaged in active play on average per day?              | 2–10yrs   |  |
| <b>Self-report</b>  | Thinking of non-organised/unstructured physical activity, which is any physical activity that is <b>NOT</b> part of organised sport, physical activity done at school or active transport and is <b>NOT</b> restricted by rules usually set and governed by adults — some examples of active play are kicking a ball against the wall or running around with your dog at the park:<br><br>In the past week how much time did you spend engaged in non-organised physical activity on average per day? | 11–17yrs  |  |

Note, MVPA = Moderate- to Vigorous-intensity Physical Activity; yrs = years.

# BEYOND THE GRADE

Authored by:

Robyn Munro Miller, Board Member, Play Australia

Barbara Champion, Executive Director, Play Australia

## PLAY AS A BIOLOGICAL IMPERATIVE

Good nutrition, quality caregiving and sleep are well known to be essential for children's development but just as essential is play. Play is undertaken by all species with advanced social structures, providing us with tangible evidence that play is not a human concept, created as an indulgence for our young, but a process with a deep biological imperative for survival of a species. Fulfillment of this intrinsic biological urge to play results in an increased capacity for processing and developing pro-social brains that understand how to interact with others and the environment they live in.

Play provides multifunctional benefits for brain and motor skill development. During play, new circuits are built in the neocortex of the brain. The neocortex relates to the regulation of emotions, problem solving and the navigation of complex social interactions. Just 30 minutes of play is enough to significantly modify one third of genes in the brain within one hour.<sup>143</sup>

Play is also linked to increased brain-derived neurotrophic factor (BDNF). BDNF plays an important role in the growth and development of neurones, neural plasticity, regulation of glucose and energy metabolism. It is also recognised as having a role in social learning and the development of long-term memory. After sessions of rough and tumble play<sup>143</sup> and being allowed to explore<sup>144</sup> rats showed significant increases in BDNF.

We are at present facing a major challenge to the mental and physical health of Australian children as COVID-19 precautions for the health and wellbeing of the community have limited the ability for children over the past 18 months to access a range of play opportunities.

The deprivation of play opportunities for children results in not just limiting their intellectual potential but also has potential implications for increases in longer term mental and physical health issues.<sup>128</sup> For instance, decreased levels of BDNF are associated with neurodegenerative disease such as Alzheimer's disease, multiple sclerosis, and Parkinson's disease.

This play deprivation, identified globally as a threat to children's health and wellbeing, has potential for major long-term implications for the community if strategies are not put in place to address play deprivation for children in communities impacted by lockdown. As stated in the UN General Comment on Article 31,<sup>145</sup> access to play should not be dependent on a child's socio-economic status or location. Despite this, in Australia the children who spent the longest period in lockdown over the past 18 months were those in low socio-economic areas, often living in high density housing areas. In these conditions, lockdown requirements offered children little choice than to remain indoors, in cramped conditions, for extended periods of time, with limited access or no access to outdoor play spaces.<sup>146</sup> Restrictions included removal of access in some states to playgrounds, impacting children who had no access to outdoor space at their homes. Whilst providing no commentary on the rationale for the restrictions, the long- and short-term impacts on children's health and wellbeing must be recognised and considered in planning for recovery.

Investment in play must be a national priority for Government as a critical measure of health and wellbeing. Play is a catalyst for building strong connected communities and as such should be an integral part of the COVID-19 recovery plan for Australian children.

There are many things in a child's life that are optional. Play is not one of them.

**Play provides multifunctional benefits for brain and motor skill development.**







# SCREEN TIME

2014

D-

2016

D-

2018

D-

2022

D-

## METRICS USED FOR RATING

Proportion of Australian children and young people meeting the Australian Movement Guidelines for screen time each day:

### Early years<sup>147</sup>

- + Infants (birth to 12 months) should not be allowed any screen time;
- + Toddlers (1 to 2 years) should not be allowed any screen time; and
- + Pre-schoolers (3 to 5 years) should not be allowed any more than 1 hour of sedentary screen time per day.

### Children and Young People<sup>148</sup>

Children and young people (5 to 17 years) should spend no more than 2 hours of sedentary recreational screen time<sup>†</sup> per day.

<sup>†</sup> Note: this does not include screen time needed for schoolwork.

## Confidence Rating



Authored by: Dr Juliana Zabatiero, Dr George Thomas, Professor Leon Straker (Curtin University)

## RATIONALE

This indicator is focussed on 'screen time', rather than 'sedentary behaviour' as there are more data available for screen time, and it is a common sedentary behaviour. Additionally, the national guidelines do not yet have broader quantified sedentary time recommendations.

The available national data indicate no change from 2018, with most Australian children and young people still engaging in more sedentary leisure screen time than recommended by the national guidelines.

## KEY FINDINGS

### National:

- + Parent-report data show that only 37% of infants and toddlers, aged from birth to 2 years, do not engage in any screen time on a typical day.<sup>29</sup>
- + Parent-report data show that 28% of pre-schoolers, aged 3 to 5 years, engage in no more than 1 hour of screen time on a typical day.<sup>29</sup>
- + Self-report data show that only 10% of young people aged 12-17 years on an average day.<sup>26</sup>
- + Parent-report data show that 35-46% of primary school-aged children and 15% of secondary school-aged students, engage in no more than 2 hours of screen time for entertainment purposes on a typical day.<sup>29</sup>
- + Parent-report data show 48% of young people aged 12-14 years typically watch TV programs or movies for no more than 2 hours on a weekday and only 16% on a weekend day (note: does not include other screen time from using electronic game, computer, tablet, or smartphone devices for leisure including social media).<sup>23</sup>

### State:

- + Parent-report data from Victoria show only 20% of children aged 5-15 years engage in no more than 2 hours of screen time every day.<sup>36</sup>
- + Self- and parent-report data from South Australia show 56% of children and young people aged 5-17 years engage in no more than 2 hours of screen time for recreational purposes on a weekday and 31% on weekend days.<sup>35</sup>
- + Self-report data from Queensland and Tasmania show 43-44% of young people aged 12-17 watch less than 2 hours of TV or videos on an average school day and 39% engage in less than 2 hours of using the internet/playing electronic games for recreation on an average school day.<sup>42, 43</sup>

### Supplementary:

- + Whilst most data typically consider only home screen use, a recent small study of 264 children gathered parent and educator report data on technology use both in home and early childhood education and care settings.

It showed that of 61 children under 2-years-old, 16 (26%) were reported to have no screen technology use per day and of 203 children 2-5 years, 66 (33%) were reported to have less than 60 minutes of screen technology use per day.<sup>57</sup>

- + A recent national study indicated 51% of primary and secondary school-aged students increased their time using screens for entertainment due to COVID-19 associated restrictions, but also that 76% of parents felt that screen time had an overall positive effect on their child during these times, with 75% of parents reporting screens helped remote learning and 78% reporting screens helped with staying connected with friends and extended family.<sup>27</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + Improving compliance with the current screen time guidelines is challenging given the expanded importance of digital screen technologies in the lives of children and young people, for education, social connection, relaxation, and play. In addition, almost all (94%) Australian young people, two thirds (67%) of primary school-aged children and over a third (36%) of pre-schoolers have their own mobile screen-based device.<sup>29</sup> It is very common for parents to express concern about the screen use habits of their offspring<sup>149</sup> but many parents also recognise that screen use supports their child's learning and social connection.<sup>27</sup> This creates a dilemma for parents torn between the requirements for their children to use screens for educational purposes, especially in the current COVID-19 world, and guidelines encouraging minimising use.<sup>150</sup> Educators, health professionals, parents and children will need to work together to understand the risks and benefits of screen use and how to best support non-sedentary screen use and screen-free activities to reduce sedentary screen time.
- + Developing an agreed family screen and activity plan can help show that screens can be used strategically for a range of useful purposes including education and relaxation. This can include screen-free times such as during mealtime and before bed. It can also help ensure children are encouraged to experience a mix of screen-based and non-screen-based activities, making sure sedentary screen use does not reduce physical activity and sleep.
- + Screens can be a source of inspiration to be physically active – for example watching videos on skateboarding then going and trying that activity. Screens can also support other physical activities, for example social media can enable young people to organise to meet for a walk and benefit from social connection.
- + Screens can also be a direct support for physical activity, for example playing active electronic games that require whole body movement with some video game consoles (e.g., Xbox Kinect) and virtual reality headsets (e.g., Oculus Rift) or gaining instruction or coaching encouragement in an online physical activity class. Features of mobile devices can also encourage physical activity – for example using the timer or camera to encourage activity or practice of a new skill.
- + Adults have an important role in modelling the use of screens in their lives, showing children and young people that screens can be used thoughtfully and in moderation.

## WHAT DO WE NEED TO KNOW?

- + The Australian guidelines are aimed at reducing sedentary time – the time children spend sitting. Children are sedentary in parts of their lives which may not involve use of a screen, such as sitting at school, commuting, meals and socialising. So, we need to know the amount and pattern of screen and non-screen sitting by children, the displacement of movement or sleep, and the associations with health and development to inform better guidelines.
- + Although the Australian guidelines currently only address recreational screen time, we need to know how much of screen time is school related to get a full picture of children's sedentary screen time.
- + We also need to know what they are doing during screen time as the content (e.g., prosocial, or not), purpose (e.g., creating content vs consuming content) and context (e.g., co-viewing with parent) can impact on the cognitive, emotional, and social effects.
- + Technology and its use are rapidly changing, so we also need to know how children and young people of different ages are currently interacting with different types of devices, particularly with mobile touch screen devices.

## WHAT DO WE NEED TO DO?

To better understand the effects of different types of screen use and non-screen sedentary behaviours we need better measures to quantify not only the amount and pattern of sitting, but also what children are doing while they are sitting. Wearable sensors can now provide an accurate assessment of sedentary behaviours but need to be supplemented with descriptions of what children are doing. This will enable clearer guidance to families on not only suitable number of hours sitting each day and how often to take a break from sitting, but also relate this to what children are doing – for example reading a book, chatting with friends, doing schoolwork.

As there is still no contemporary national objective data on how sedentary Australian children are we need to prioritise this in national health and behaviour assessments. This needs to include very young children as well as school-aged children, and cover when children are at home, school/care, and in the community. We need to develop better measures of screen use to account for not only time, but also the specific device, content, purpose, and context of use. These measures need to adapt to the modern reality of screen use, accounting for contemporary screens, such as smartphones and tablets, and engagement in a range of newer digital media, such as online communication, social networking, and content streaming.

As the evidence base behind the dose-response relationships between sedentary behaviours (all types) and health and development outcomes builds, it is vital this is reviewed in a timely fashion to determine how to update the guidelines. Given the current confusions around screen use and sedentary time we should work towards separate guidelines for sedentary time and screen use, as not all sedentary behaviours involve screens and not all screen use is sedentary.

Table 7

### Recommended objective and self/proxy-report methods and how to operationalise the data for Screen Time

| Method Type                           | Method /Question  | How to Operationalise   |
|---------------------------------------|---|---|
| <b>How to collect the data</b>        | <p>Given the complex nature of sedentary behaviour it is important that standardised methods for both objective and subjective measures be considered. Objectively, standardised data collection and analysis protocols should be used for various measurement tools (e.g., accelerometers), such that:</p> <p>Children are monitored for at least three days but ideally, they would be monitored for seven days.<sup>151, 152</sup> Researchers should report sedentary time (e.g., minutes spent sedentary) and patterns of sedentary behaviour (e.g., bout durations) for each day (that data were collected on) and as a daily average.</p> <p>While the current national sedentary behaviour guidelines specify that children and young people aged 5–17 years should limit the total time they spend sitting and break up prolonged periods of sitting with regular breaks,<sup>148</sup> at this time there is no suggested standardised questions that should be employed for either total sitting time or prolonged bouts of sitting.</p> | <p>Consistent with the current Australian sedentary behaviour guidelines,<sup>147, 148</sup> the two primary metrics proposed for sedentary behaviours are:</p> <ol style="list-style-type: none"> <li>1. Proportion of Australian children and young people meeting the recommended sedentary behaviour screen time guidelines* on all 7 days of the week; and</li> <li>2. Proportion of Australian infants/ toddlers/pre-schoolers meeting the recommended sedentary behaviour (restrained from activity) guidelines# on all 7 days of the week.</li> </ol> <p>* No exposure &lt;2 years, ≤1 hour every day for 2–5 years and ≤2 hours for 5–17 years.<br/># ≤1 hour of being inactive or restrained.</p> |
| <b>The proposed self/proxy-report</b> | <ol style="list-style-type: none"> <li>1. On how many days, during the past 7 days, were you/ your child engaged in sedentary screen-based activities (all forms e.g., watching television, using tablets, computers, or smartphones, or playing electronic games) for entertainment for less than 1 or 2* hour/s per day?</li> <li>2. On how many days, during the past 7 days, was your child (aged less than 2 years) exposed to any form of screen-based activities (all forms e.g., watching television, using tablets, computers or smartphones, or playing electronic games)? and</li> <li>3. On how many days, during the past 7 days, was your child (0–5 years only) kept inactive or restrained (e.g., stroller, highchair, car seat) for more than 1 hour at any time?</li> </ol> <p>* Different time guidelines for children and young people aged 2–5 and 5–17 years, respectively.</p>   |   |

Note, MVPA = Moderate- to Vigorous-intensity Physical Activity; yrs = years.



# BEYOND THE GRADE

Authored by:

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## THE 'NEW NORMAL' FOR SCREEN USE IN COVID-19 TIMES

The pandemic has brought to the fore the importance of digital technology as we live our daily lives. Our 'new normal' of daily living is one where digital connections are being used in increasingly innovative ways for learning from home, playing games, going to the virtual library, online shopping, and staying in touch with families and friends. In addition, activities typically undertaken for physical activity are being channelled into home contexts; sport, relaxation and exercise experiences are being live-streamed, and there are a range of mental health apps to support relaxation and wellbeing.

There has been a shift by many in considering the risks and opportunities of screen use by children. Pre-COVID-19, there were many concerns voiced by parents, health professionals and educators about the risks of screen use and yet screen use is being presented as the solution to pandemic-initiated stay-at-home measures. The actuality is that both opportunity and risk are always in tension when thinking about children's digital activities.

In balancing opportunity and risk, one strategy is to work from a transdisciplinary view that brings together, through a child rights perspective, evidence-based knowledge from a range of disciplines, including health, education, recreation and movement, media studies, technology innovation, and digital citizenship. Only through considering 'the whole child' in combination can these understandings be balanced to promote and support children to thrive in their daily lives.

The pandemic has highlighted social inequalities, where children's access to digital technologies and safe, green play spaces may be limited by different vulnerabilities, such as fraught domestic situations, housing insecurity, and socio-economic challenges. Reducing inequalities of digital access can also serve to overcome barriers to education and physical activity opportunities.

Changes to how we live our daily lives in COVID-19 times have had unforeseeable benefits. Using screen time to participate in activities that previously were only possible when sharing the same physical space have brought about new understandings of how children, young people and families can engage with screens in ways that provide activity (e.g., movement games, skill coaching classes). They also have additional benefits of reducing car-based parent 'taxi' time – helping reduce global pollution and increase time available for shared family experiences, including physical activity.

In managing the challenges of the 'new normal' for all children, from infants through to young people, how do we make best use of digital screens and, more broadly, digital time? For example, digital technologies are providing new ways to support movement and activity that are not solitary, but rather an enjoyable and fun time with family and friends, and therefore more sustainable. Australian organisations such as the Raising Children Network (RCN) (<https://raisingchildren.net.au>) and Kinderling (<https://www.kinderlingkids.com/>) provide digital resources for families that promote active screen use to be shared by and with children and their families.



## FAMILY AND PEERS

2014

C

2016

C+

2018

C+

2022

C+

### METRICS USED FOR RATING

- + Proportion of Australian children not using a screen at least 30 minutes before bedtime.
- + Proportion of Australian children and young people whose family apply rules or restrictions to their screen use (time spent, what is viewed, etc.).
- + Proportion of Australian children and young people who receive some form of encouragement or support from their parents/caregivers to be physically active.
- + Proportion of Australian children and young people who receive some form of encouragement or support from their peers to be physically active.
- + Proportion of Australian children and young people who engage in 'co-participation physical activity' with their parents/caregivers.
- + Proportion of Australian parents/caregivers who meet the Australian Physical Activity Guidelines for Adults (adults should take part in at least 150 minutes of moderate activity or 75 minutes of vigorous activity each week, or an equivalent combination thereof, to enhance their health).
- + Proportion of homes with adequate physical activity equipment.

### Confidence Rating



Authored by: Verity Booth and Tim Olds (University of South Australia)

### RATIONALE

Data were available from four national surveys,<sup>23, 26, 29, 31</sup> and one South Australian Survey.<sup>46</sup> The ages covered were 0-18. The overall picture is that parents encourage their children to be active and are often physically active with them. Most homes have adequate physical activity equipment such as basketball hoops and trampolines. However, many fewer parents meet the physical activity guidelines themselves. The data are less promising around peer encouragement to be active and rules around screen time, which both sit at about 50-60%.

### KEY FINDINGS

#### National

- + 77% of parents report being physically active with their children (range 68-85%)<sup>31</sup> and 76% of secondary school-aged students report parent encouragement to be active.<sup>26</sup>
- + Two thirds of secondary school-aged students report adequate physical activity equipment at home.<sup>26</sup>
- + Data from LSAC<sup>24</sup> show alarmingly low levels of parents meeting the physical activity guidelines themselves (18%).
- + 63% (range 25-73%) of households have rules around screen use (time spent viewing, timing or content)<sup>23, 26</sup> and 56% (range 44-62%) report a screen-free bedtime.<sup>29</sup>
- + About half of children (52%) report peer encouragement to be active.<sup>26</sup>

#### State

- + About half (45%, range 40-53%) of children report encouragement from their peers to be physically active.<sup>46</sup>
- + Most (75%) young people report that their family would approve of them doing more exercise.<sup>46</sup>

#### Supplementary

- + 62% of households report having rules around screen use.<sup>54, 55</sup>
- + 60% of parents report being physically active with their children.<sup>55</sup>
- + The majority (93%) of children and young people report getting encouragement from their parents to be physically active.<sup>54</sup>
- + A moderate proportion of parents (58%) report encouraging physical activity for their 2-5-year-old children.<sup>55</sup>

### HOW CAN WE IMPROVE THE GRADE?

Most children and parents do not meet the recommended Physical Activity Guidelines (see specific statistics under Overall Physical Activity and above), so an emphasis on physical activity co-participation for a range of activities (huff and puff, muscle and bone strengthening) would improve both metrics. Support to enable this might be provided via:

- + Greater workplace flexibility so that parents can walk to school with their children. Working from home in the wake of COVID-19 may facilitate this.
- + Modifying policies at schools around child safety to make it easier for parents to be involved in the school sports setting. This might include some adult-sized playground equipment and signage encouraging parents to be active with their children.
- + The provision of spaces, places and programs that encourage co-participation should be prioritised (e.g., sports grounds with workout equipment or walking tracks nearby).
- + Schools and sporting clubs encouraging co-participation events involving both parents and children (for example, bushwalking, skateboarding competitions for fathers and sons — that would be amusing — or mixed relay swimming).

Parents struggle with the regulation of screen time, particularly during COVID-19 lockdowns. Screens have become integrated into every part of life — communication, learning and entertainment. But there remain areas where parental advice and regulation can still have an impact, for example regarding use of screens around bedtime. Similarly, maximising time outdoors will reduce screen use.



## WHAT DO WE NEED TO KNOW?

- + A better understanding of how, why, and when screens are used will allow us to develop strategies to modify inappropriate screen use.
- + More data on the proportion of parents meeting physical activity guidelines, and the challenges parents face in being sufficiently active at the various life stages of their children.
- + Rates of co-participation of children and parents/caregivers in physical activity, to investigate role-modelling behaviour, and how to support this.

These data should be collected as part of a national monitoring system.

We have very few data on the role of peers, which has been under-estimated (see Beyond the Grade). Data on the extent and nature of real-world and virtual friendship networks would provide important insights.

## WHAT DO WE NEED TO DO?

The role of parents and peers is intimately bound up with physical activity and active transport infrastructure, workplace rules and flexibility, economic considerations around the costs of sport, education policy and implementation, and family structure (single- vs two-parent households, number, and age of siblings). To understand this complex interplay, these data need to be collected using standardised methods as part of a national monitoring and surveillance system. We should also explore the possibility of peer-based interventions, such as identifying physical activity champions among influential peers.

Table 8

### Recommended self/proxy-report methods and how to operationalise the data for Family and Peers.

| Method Type                                   | Method /Question   | Age group                                  | How to Operationalise   |
|---|--|--|---|
| <b>INFRASTRUCTURE</b>                         |  |  |   |
| <b>Parent /Proxy-report &amp; Self-report</b> | <p>Do you/does your child engage in screen time (all forms e.g., watching television, using tablets, computers or smartphones, or playing electronic games) during the 60 minutes before going to bed?</p> <p><b>AND</b></p> <p>Do you/does your child have access to a screen-based device (for example a tablet, laptop or smartphone) when you/your child should be asleep?</p> <p><b>AND</b></p> <p>Do you/does your child engage in screen time while in bed when you/your child should be asleep?</p> <p><b>Answer:</b> Never; Rarely; Sometimes; Often; Always.</p> | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p> | Proportion of Australian children and young people who are reported to have a screen-free bedtime and sleep time (i.e., answered rarely or never for each question)   |
| <b>Parent /Proxy-report &amp; Self-report</b> | <p>Does your family apply rules or restrictions to <b>time spent</b> engaged in screen time (all forms e.g., watching television, using tablets, computers or smartphones, or playing electronic games) at home?</p> <p><b>AND</b></p> <p>Does your family apply rules or restrictions to what you/your child can <b>do or watch</b> when engaged in screen time (all forms e.g., watching television, using tablets, computers or smartphones, or playing electronic games) at home?</p> <p><b>Answer:</b> Never; Rarely; Sometimes; Often; Always.</p>                   | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p> | Proportion of Australian children and young people whose family apply rules or restrictions to their screen use (i.e., time spent or what they do or watch and answered often or always for each question). |

Continued overleaf...

Table 8 Continued

## Recommended self/proxy-report methods and how to operationalise the data for Family and Peers.

| Method Type                                   | Method /Question   | Age group                                  | How to Operationalise   |
|---|--|--|---|
| <b>SUPPORT</b>                                |  |  |   |
| <b>Parent /Proxy-report &amp; Self-report</b> | <p>In the past 7 days, on how many days, did you/your child receive/give some form of encouragement or support (e.g., transport to activity) from a parent* or siblings*/to your child to be physically active (e.g., "It is great that you have been playing outside more with your brother/sister this week")?</p> <p><b>AND</b></p> <p>In the past 7 days, on how many days, did you/your child receive/give some form of encouragement from/to your/ their friends or peers to be physically active (e.g., "It's great we are riding to school together from now on")?</p> <p><b>Answer (circle one):</b> 0 1 2 3 4 5 6 7 days</p>   | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p> | <p>Proportion of Australian children and young people who receive some form of encouragement or support from their parents*, siblings* or peers to be physically active at least once per week.</p> <p>Proportion of Australian children and young people who give some form of encouragement to their friends or peers to be physically active at least once per week.</p> |
| <b>ROLE-MODELLING</b>                         |  |  |   |
| <b>Parent /Proxy-report &amp; Self-report</b> | <p>In the past 7 days, on how many days, were you physically active with a parent* or sibling*/with your child?</p> <p><b>AND</b></p> <p>In the past 7 days, on how many days, were you/was your child physically active with a friend or peer?</p> <p><b>Answer (circle one):</b> 0 1 2 3 4 5 6 7 days</p>  | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p> | <p>Proportion of Australian children and young people who engage in 'co-participation physical activity' with their parents* or siblings* at least once per week.</p> <p>Proportion of Australian children and young people who engage in 'co-participation physical activity' with their friends or peers at least once per week.</p>                                      |
| <b>Parent /Proxy-report</b>                   | <p>In the past 7 days, that is since last (day 7 days ago), on how many days have you done a total of 30 minutes or more of physical activity, which was enough to make you out of breath or sweaty? This may include sport, other physical activity and exercise, either organised or done informally, and can include brisk walking or cycling for recreation or to get to and from places, but should not include housework or physical activity that may be part of your job.</p> <p><b>AND</b></p> <p>In the past 7 days, that is since last (day 7 days ago), on how many days, did you engage in muscle or bone strengthening physical activity (e.g., body weight exercises like push-ups or squats, running, dancing, activities around the house that require lifting things)?</p> <p><b>Answer (circle one):</b> 0 1 2 3 4 5 6 7 days</p> | <p>Parent of child aged Birth–17yrs)</p>   | <p>Proportion of Australian parents/caregivers who meet the Australian physical activity guidelines*.</p>   |

Note, MVPA = Moderate- to vigorous-intensity physical activity; PR = Parent/proxy-report; SR = Self-report; yrs = years.

\*Parent represents the individual who cares for the child on a permanent basis (i.e., mother or father, caregiver, guardian, grandparent, other relative). Sibling represents any child or young person who lives permanently with the child (i.e., cousin, brother or sister, foster sibling).

\*At least 150 minutes of moderate, 75 minutes of vigorous, or an equivalent combination of both moderate/vigorous physical activities each week and engage in muscle and bone strengthening activities on at least 2 days each week.



# BEYOND THE GRADE

Authored by:

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## Children can't choose their parents, but they can choose their friends

Parents like to think they are critical influences in the way their children turn out, and often anguish over their nurturing failings and pride themselves on their successes. But in 1998 American psychologist Judith Rich Harris published *The Nurture Assumption*,<sup>153</sup> which argued that studies of parental influence failed to control for genetic factors, and that once genetics was considered, parental influence for some outcomes was vanishingly small, particularly in comparison to peer influence. Consider language: children of immigrant parents to Australia who can barely speak English nonetheless rapidly develop idiomatic English with a strong Australian accent. Data from the Longitudinal Study of Australian Children show that on school days, children and young people spend about 8 waking hours with their peers compared to less than 3 hours with their parents.<sup>154</sup>

When it comes to physical activity, parents clearly have some role: they chauffeur children to and from sports events, they pay for their sports gear and subscriptions, role model active lifestyles, and occasionally they co-play with their children. But the importance of peers is undervalued. Several systematic reviews<sup>155, 156</sup> have shown that active children tend to gravitate

towards active peer groups — so-called network homophily — the idea that “birds of a feather flock together”. We also find homophily with appearance, academic achievement, IQ, and personality.


Children share a culture, a local geography, dress codes, behavioural norms, and expectations. Health behaviours and outcomes can be influenced by “social contagion” in networks of friends. Children’s social networks can affect physical activity behaviours in several ways: by creating behavioural norms; co-activity (for example, children will cycle further when they are with friends than when they are alone); social support which generates self-efficacy; and by building a “tribal” identity around some kind of physical activity, such as a sports team or informal physical activities like surfing.

Today we are seeing the virtualisation of peer relationships, accelerated by communications technologies, COVID-19 distancing and online learning. This can have positive aspects — a wider circle of friends, easier communication — but physical activity suffers, and peer relationships may suffer due to online bullying. Many studies have shown a strong relationship between overall levels of physical activity and time spent outside.<sup>157</sup> Children are two to three times more active when they are outdoors than indoors.<sup>158</sup>

Studies will typically measure parental attitudes and behaviours, the social and built environment, school policies and facilities — but rarely peer groups. Interventions will often try to change the environment, or parental attitudes, or government policies, but they rarely target peer groups. One possibility is to identify influential peer physical activity champions and to profit from online contagion, in the same way as the private sector uses influencers. Children can't choose their parents, but they can choose their friends.





| SCHOOL  | 2014<br>B- | 2016<br>B- | 2018<br>B+ | 2022<br>C+  |
|---|------------|------------|------------|---|
| <b>METRICS USED FOR RATING</b> <ul style="list-style-type: none"> <li>+ Proportion of schools that schedule the delivery of physical education (PE) and other planned physical activities, such as school sport, active lessons and classroom energiser breaks in compliance with state-based mandates.</li> <li>+ Proportion of schools that have a specialist PE teacher take PE lessons.</li> <li>+ Proportion of schools that have good or excellent physical activity facilities/equipment available for PE and sport. Of note, this metric changed from "Proportion of schools that have physical activity facilities/equipment available to students to use during school hours".</li> </ul> |            |            |            |   |
| <b>Confidence Rating</b>  |            |            |            |  |

Authored by: David Lubans and Angus Leahy (University of Newcastle)

## RATIONALE

Although national data were not available, state-based data suggest few primary schools are meeting school physical activity scheduling policies. The Report Card team considered this metric to be the most important indicator for the school grade because it reflects the amount of curriculum time allocated to PE and other planned physical activities, such as school sport, active lessons, and classroom energiser breaks. The school grade was also informed by national data reporting the proportion of schools that have specialist PE teachers and the quality of physical activity facilities/equipment available in schools. The decrease in the grade from the 2018 Report Card reflects new data from two large-scale state-based physical activity studies.<sup>47, 50</sup> In addition, national data suggest a decrease in the proportion of schools with specialist PE teachers in secondary schools.

## KEY FINDINGS

### National:

- + No national data pertaining to the proportion of schools scheduling the delivery of physical education (PE) and other planned physical activities were available.
- + School staff-report data show 61% of secondary school-aged students have access to a specialist PE teacher.<sup>23</sup> There were no national data pertaining to the proportion of primary schools with specialist PE teachers.
- + School staff-report data show 43-50% of teachers consider their schools to have good or excellent physical activity facilities/equipment available for PE and sport. However, only 7% report access to a gym or indoor space for school-based physical activity.<sup>23</sup>

### State/Territory:

- + School staff-report data show 31% of NSW primary schools<sup>49</sup> are providing the mandated 150 minutes of planned physical activity each week.<sup>48</sup>
- + School staff-report data show 27% and 32% of Victorian primary schools are providing the mandated 100 and 180 min of PE and school sport/week, respectively.<sup>47</sup>
- + School staff-report data suggest 72-79% of PE is delivered by specialist teachers in Victorian primary schools.<sup>47</sup> There were no state data available for other states and territories.
- + Based on accelerometer data, 78% of students in NSW primary schools are accumulating at least 30 minutes of MVPA/day during school hours.<sup>50</sup>

### Supplementary:

- + Self-report data show 19% of secondary school-aged students believe that their school does not have enough sports facilities and equipment, and 52% want a greater range of activities to be made available in PE and school sport.<sup>26</sup>
- + Based on national self-report data 25% and 20% of secondary school-aged students are typically active at lunch and recess time, respectively.<sup>26</sup>
- + Self-report data indicate 92% of students in Queensland schools aged 5-17 years participated in PE in the last 12 months.<sup>34</sup>
- + School staff-report data from NSW primary schools show 17% allow students to use hard court/paved areas on most days of the week, while 43% of schools promote physical activity during break times by making equipment available and/or providing playground markings.<sup>48</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + There is considerable variability in the amount and type of physical activity mandated in Australian state and territory physical activity policies.<sup>159</sup> A 'national physical activity plan' may help to achieve consensus among states and territories and help the short- and long-term monitoring and surveillance of physical activity in schools. However, the Federal Government is yet to establish a funded National Physical Activity Plan that is embedded across sectors.
- + Physical activity promotion in schools is a multi-sectorial challenge. Collaboration between education, health, and sport sectors are needed to support the implementation of physical activity programs and policies in Australian schools.
- + There is an urgent need to 'scale-up' effective whole-of-school physical activity programs<sup>160, 161</sup> (also known as comprehensive school physical activity programs),<sup>162</sup> which are considered by the International Society for Physical Activity and Health to be one of 'eight investments that work for physical activity'.<sup>163</sup> Whole-of-school programs provide children and young people with multiple opportunities to be active throughout the day, including quality PE, active classrooms, active recess, and lunch breaks, after school activities, and the promotion of active transportation to school. There are excellent examples of whole-of-school programs that have been scaled-up in Australian primary<sup>49, 50</sup> and secondary<sup>164</sup> schools. However, ongoing funding is required to ensure that such programs achieve their potential.
- + Physical activity declines dramatically during late childhood and continues into adolescence,<sup>165, 166</sup> yet Australian schools do not require mandatory physical activity for senior school students (i.e., students in the final two years of secondary school).<sup>159</sup> There is a need for physical activity programs and policies targeting older adolescents in Australian schools.

## WHAT DO WE NEED TO KNOW?

- + We need high quality nationally representative data examining physical activity provision in primary and secondary schools.
- + While we have state-based data describing the scheduling of planned physical activity in primary schools, we do not know what (if anything) is being delivered by teachers. As such, research examining the quantity and quality of PE, school sport, active lessons, and classroom energiser breaks delivered by teachers is needed.
- + We require national data detailing the proportion of schools that provide at least 60 mins of break time (i.e., recess and lunchtime combined) per day to engage in freely chosen physical activity.
- + We also need observational studies that examine the physical environment, facilities, and equipment available in schools and their use. Previous studies have relied upon self-reports from students and teachers.

## WHAT DO WE NEED TO DO?

Considering the complexity of the school indicator, there is a need to standardise the methods for collecting and interpreting the data. The grade should consist of a combination of observation and staff/student-report measures, with greater weighting allocated to the core metric - "Proportion of schools that schedule the delivery of physical education (PE) and other planned physical activities, such as school sport, active lessons and classroom energiser breaks in compliance with state-based mandates." As stated above, the establishment of a National Physical Activity Plan may assist in gaining consensus among states and territories regarding a consistent national school physical activity policy.





Table 9

### Recommended objective and staff/student-report methods and how to operationalise the data for School.

| Method Type                     | Method /Question   | Age group                     | How to Operationalise  |
|---------------------------------|--|-------------------------------|--|
| <b>Objective</b>                | A national audit that collects information on policies, practices and infrastructure (i.e., the standardised questions suggested below plus any additional questions to capture other elements important to physical activity participation) be commissioned at the federal level. | Primary and Secondary Schools | Can be used to inform metrics below and provide additional information with regards to policies, practices and infrastructure.   |
| <b>POLICIES &amp; PRACTICES</b> |  |                               |  |
| <b>Staff-report</b>             | Does your school have a written policy specifying how much time should be allocated to organised physical activity?<br><b>Answer:</b> Yes; No; Not sure.   | Primary and Secondary Schools | Proportion of schools with a written policy that specifies how much time should be allocated to organised physical activity.   |
| <b>Staff-report</b>             | Does your school have a written policy specifying the qualifications of individuals teaching/facilitating physical activity?<br><b>Answer:</b> Yes; No; Not sure.  | Primary and Secondary Schools | Proportion of schools with a written policy that specifies the qualifications of individuals teaching/facilitating physical activity.                                  |
| <b>Staff-report</b>             | Does the school employ at least one tertiary qualified physical education specialist teacher on a full-time basis?<br><b>Answer:</b> Yes; No; Not sure.  | Primary & Secondary schools   | Proportion of schools that employ at least one tertiary qualified physical education specialist teacher on a full-time basis.  |
| <b>Staff-report</b>             | Does a tertiary qualified PE specialist teacher deliver all scheduled physical education classes for all students?<br><b>Answer:</b> Yes; No; Not sure.<br><br>Note, This question should be asked for all grades independently of one another.                                    | Primary & Secondary schools   | Proportion of schools (each grade reported independently) that have a tertiary qualified PE teacher deliver all scheduled physical education classes for all students. |

Continued overleaf...

**Table 9** Continued

**Recommended objective and staff/student-report methods and how to operationalise the data for School.**

| Method Type                    | Method /Question  | Age group  | How to Operationalise  |
|--------------------------------|---|--|--|
| <b>Staff-report</b>            | <p>During the school day organised physical activity can include PE and/or sport lessons, active lessons or active lesson breaks — but does not include participation in physical activity during recess or lunch time.</p> <p>How much scheduled organised physical activity is delivered/offered to students on average every week (in minutes)?</p> <p>Note, This question should be asked for all grades independently of one another.</p>  | Primary & Secondary schools  | Proportion of schools (each grade reported independently) that deliver/ offer at least 150 minutes per week of organised physical activity to all students.  |
| <b>Staff-report</b>            | <p>How much time is allocated to recess and lunch time (combined) every day (in minutes)?</p> <p>Note, the time reported should not include anytime that students are required to be seated for eating or to be lining up waiting.</p>  | Primary & Secondary schools  | Proportion of schools that allocate at least 60 minutes of time for recess and lunch time (combined) every day, during which students can be physically active.  |
| <b>INFRASTRUCTURE</b>          |   |  |  |
| <b>Staff-report</b>            | <p>How many <b>FIXED</b> pieces of physical activity equipment are available for children to use indoors/outdoors?</p> <p><b>AND</b></p> <p>How many <b>PORTABLE</b> pieces of physical activity equipment are available for children to use indoors/outdoors?</p> <p>Equipment may include: swinging and climbing equipment, slides, hoops &amp; ball equipment, ground markings, balancing surfaces, floor mats, sand/mud pit, musical equipment, push/pull toys, ride-on toys, water pump, cubby house, mini trampolines.*</p> | Primary and Secondary Schools  | There is no recommended benchmark at present but where possible report 'total counts' for different 'types' of equipment.  |
| <b>Staff-or student-report</b> | <p>If available, during school hours (but outside of scheduled PE classes), do students/you have access to the following?</p> <ul style="list-style-type: none"> <li>+ Gymnasium (or indoor play space);</li> <li>+ Outside sports field (or grassed area);</li> <li>+ Hard court (or paved area);</li> <li>+ Playground; and</li> <li>+ Physical activity or sports equipment.</li> </ul> <p><b>Answer:</b> Yes; No; Not sure, for each.</p>   | <p>Primary schools (staff-report)</p> <p>Secondary schools (staff and/or student-report)</p> | <p>Proportion of schools that allow students to use during school hours (if available but outside of scheduled physical education classes) a:</p> <ul style="list-style-type: none"> <li>+ Gymnasium (or indoor play space);</li> <li>+ Outside sports field (or grassed area);</li> <li>+ Hard court (or paved area);</li> <li>+ Playground; and</li> <li>+ Physical activity or sports equipment.</li> </ul> |

Note, PE = Physical Education.

\*Questions based upon data reported by the Western Australia 'Play Spaces and Environments for Children's Physical Activity' Study (PLAYCE).<sup>56</sup>



# BEYOND THE GRADE

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University of Newcastle*

## Moving more in the final years of school

As noted in the recent Lancet Physical Activity series,<sup>58</sup> older adolescents (15-19 years) have been largely neglected in physical activity promotion efforts. This is concerning because physical activity levels decline precipitously during adolescence<sup>170</sup> and data suggest that less than 10% of Australian older adolescents are sufficiently active.<sup>25</sup> The pressure to perform in major school examinations (e.g., NSW Higher School Certificate) drives many older adolescents to sacrifice time usually spent being active to maximise their academic performance,<sup>171</sup> contributing to high levels of stress, anxiety, and depression.<sup>171</sup> One quarter of Australian older adolescents report high to very high levels of psychological distress.<sup>172</sup>

This issue is further compounded by the lack of mandatory physical activity for senior students (i.e., students in the final two years of school) in Australian schools.<sup>159</sup> Although the issue has not been studied extensively, state/territory educational authorities appear to be reluctant to allocate curricular time to physical activity at the expense of academic subjects. There is a misconception that allocating more time for study skills or revision over physical activity will improve academic performance. This view is unfortunate as there is growing evidence that participation in physical activity is beneficial for students' academic outcomes (i.e., academic performance,<sup>173</sup> executive functions,<sup>4, 173, 174</sup> and classroom behaviour.<sup>175</sup>

Of all the different types of school-based physical activity (e.g., PE, active lessons, school sport), classroom activity breaks are the most beneficial for students' focus in the classroom.<sup>175</sup> Classroom activity breaks comprise short bouts of physical activity (typically 3 to 10 minutes in duration) performed as a break from academic instruction.<sup>176</sup> Classroom activity breaks have been used extensively in primary schools, and their benefits for increasing students' physical activity,<sup>177</sup> on-task behaviour<sup>175</sup> and cognitive function<sup>178</sup> are well established.

Despite their popularity in primary schools, little is known about their utility in secondary schools.

We recently conducted the first study with senior school students examining the effects of a classroom physical activity break intervention, known as Burn 2 Learn (B2L). In the study, teachers were provided with training and resources to deliver short classroom activity breaks (approx. 10-15 mins, 2-3 times per week). High-intensity physical activity breaks were completed during academic lessons, which involved a combination of aerobic (i.e., jumping jacks, running on the spot) and body-weight resistance exercises (e.g., body weight squats, push-ups) that could be completed using minimal space and equipment. After 6-months, we observed significant improvements in students' fitness (cardiorespiratory and muscular fitness), physical activity, objectively measured stress (i.e., hair cortisol concentrations) and mental health in a sub-sample of at-risk students.<sup>179</sup> We also found acute benefits for students' subjective vitality and classroom engagement.<sup>180</sup>

Our findings provide support for re-directing curriculum time towards physical activity in the senior school years. We are not advocating for compulsory PE or school sport for senior school students (which would contribute to an already overcrowded curriculum). Alternatively, we recommend the scheduling of three mandatory classroom activity breaks per week of 15 to 20 minutes. Although more research is needed with senior school students (e.g., studies examining the effects of different types of activity breaks and large-scale implementation studies), classroom physical activity breaks can improve students' health and create a favourable condition for learning.<sup>178, 181</sup>







## COMMUNITY AND THE BUILT ENVIRONMENT

2014

A-

2016

A-

2018

A-

2022

A-

### METRICS USED FOR RATING

- + Proportion of secondary school-aged students who report there are parks or sports grounds near their home that they can easily reach
- + Proportion of parents of children who report they have good parks, playgrounds and play spaces in their neighbourhood
- + Proportion of parents of children who report they have a safe neighbourhood

### Confidence Rating



Authored by: Verity Cleland (University of Tasmania)

### RATIONALE

Fewer national and state/territory datasets were available to inform the grade for this report card compared with 2018, but the available national and state data were consistent, and were similar to that in previous report cards. There was therefore no change to the overall grade.

### KEY FINDINGS

#### National:

- + Self-reported data for Australian young people aged 12-17 years show that 77% have parks or sports grounds near where they live that they can easily access.<sup>26</sup>

#### State:

- + Parent-report data show that 89% of Victorian children aged 0-12 years live near good parks, playgrounds and play spaces. Access to these amenities was geographically and socioeconomically patterned: access was lower for rural children (80%) and children living in the most disadvantaged areas (81%), than for urban children (93%) and those living in the least disadvantaged areas (94%).<sup>36</sup>
- + Parent-report data show that 95% of Victorian children aged 0-12 years agree that their neighbourhood is safe.<sup>36</sup> Safety was socioeconomically patterned, with lower perceptions of safety in the most disadvantaged neighbourhoods (89%) and higher in the least disadvantaged neighbourhoods (98%); but there was little difference between families living in rural (96%) and urban (94%) areas.

### HOW CAN WE IMPROVE THE GRADE?

- + Children and young people need good quality, safe, accessible (e.g., connected pathways) and diverse (e.g., interesting equipment, nature play) play spaces. Municipalities need to ensure these are provided equitably across their communities.
- + We need improved access to good parks, playgrounds and play spaces for children and young people living in rural areas and in socioeconomically disadvantaged areas.
- + We need strategies and policies to improve neighbourhood safety for those children and young people living in socioeconomically disadvantaged areas.
- + We need to co-design with young people and their families community infrastructure that supports physical activity and community connections.
- + We need to better highlight the broader health and wellbeing, economic, social, and environmental benefits of participating in physical activity in outdoor and green spaces.

### WHAT DO WE NEED TO KNOW?

- + While many Australian children and young people have access to parks, playgrounds and play spaces, it remains unclear whether these spaces meet young people's needs, and what other or additional facilities and amenities would be needed to improve perceptions.
- + We need to know what parks, playgrounds and play spaces are available, and what the quality of these is like. These constructs should be measured both subjectively and objectively.
- + We need to know how factors such as gender and age relate to access and use of local parks, playgrounds and play spaces, and a better understanding about whether, how often, when and with whom children and young people access these spaces.
- + We need to better understand the reasons behind geographic and socioeconomic inequalities in access and safety. All children should have access to good amenities and safe places to play, irrespective of where they live or their circumstances.
- + We need to better understand how community infrastructure geared towards physical activity (e.g., footpaths, trails, paths, bike lanes) can best foster community connections (e.g., co-location of facilities and amenities, appeal across age groups, integration with opportunities such as parkrun or parkour) and incorporate community views in the design process.

### WHAT DO WE NEED TO DO?

The community and built environment are important settings that can support or hinder children's physical activity. While most children have good access to parks, playgrounds and play spaces and feel safe in their neighbourhood, there are geographic and socioeconomic inequalities that need to be addressed. We need to work with communities and across sectors (e.g., planning, transport, local government, health, education) to design infrastructure and develop strategies and policies that ensure all young people have accessible, safe, high-quality, and diverse places to be active in their community.

There is currently a variety of approaches to collecting data for this indicator. We need to advocate for standardised methods of data collection, as well as regular national and local monitoring and surveillance to track efforts. How objective and self/parent/proxy-report measures should be operationalised for this indicator requires further consideration. See Table 10 for AHKA recommendations.

Table 10

### Recommended objective and self/proxy-report methods and how to operationalise the data for Community and the Built Environment.

| Method Type   | Method/Question   | Age group                                       | How to Operationalise  |
|---|---|---|--|
| <b>Objective</b>  | In order to capture a complete population-representative picture of community and the built environment, and its impact or potential impact on physical activity participation, it is recommended that: A national audit of environments that collects information on connectedness, access to, and quality of spaces, should be commissioned at the federal level. | Birth–17yrs for both urban and rural locations. | Can be used to inform metrics below and provide additional information with regards to infrastructure, programs and safety.  |
| <b>POLICY</b>   |   |   |  |
| Currently there is no consistent method for assessing relevant policies, so no standardised question can be recommended. Developing a standardised question represents a research priority. |   |   |  |
| <b>INFRASTRUCTURE</b>   |   |   |  |
| <b>Self- and Parent /proxy-report</b>   | <p>Within walking distance of your home, is there?</p> <ul style="list-style-type: none"> <li>+ a playground;</li> <li>+ a park;</li> <li>+ a sports field or facilities; and</li> <li>+ affordable and regular public transport</li> </ul> <p><b>Answer:</b> Yes; No; Not sure.</p>  | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p>      | <p>Proportion of Australian children and young people who, within walking distance of their home, have:</p> <ul style="list-style-type: none"> <li>+ a playground;</li> <li>+ a park;</li> <li>+ a sports field or facilities; and</li> <li>+ affordable and regular public transport</li> </ul> |
| <b>Self- and Parent /proxy-report</b>   | <p>Within my local neighbourhood there are good roads and footpaths to support active transport.</p> <p><b>Answer:</b> Disagree; Neutral; and Agree.</p>  | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p>      | <p>Proportion of Australian children and young people who have good roads and footpaths to support active transport within their local neighbourhood — Agree.</p>  |
| <b>PROGRAMS</b>   |   |   |  |
| <b>Self- and Parent /proxy-report</b>   | <p>My local neighbourhood offers physical activity programs (delivered by community providers and accessed through the local community) suitable for me/my child.</p> <p><b>Answer:</b> Disagree; Neutral; and Agree.</p>   | <p>PR: Birth–10yrs</p> <p>SR: 11–17yrs</p>      | <p>Proportion of Australian children and young people who are offered suitable physical activity programs (delivered by community providers and accessed through the local community) within their local neighbourhood — Agree.</p>  |

Continued overleaf...



We need strategies and policies to improve neighbourhood safety for those children and young people living in socioeconomically disadvantaged areas.



Table 10 Continued

### Recommended objective and self/proxy-report methods and how to operationalise the data for Community and the Built Environment.

| Method Type                           | Method /Question  | Age group                       | How to Operationalise   |
|---------------------------------------|---|---------------------------------|---|
| <b>SAFETY</b>                         |   |                                 |   |
| <b>Self- and Parent /proxy-report</b> | Heavy or problem traffic is not a concern in my/my child's home/school neighbourhood.<br><b>Answer:</b> Disagree; Neutral; and Agree.   | PR: Birth–10yrs<br>SR: 11–17yrs | Proportion of Australian children and young people for whom heavy or problem traffic is not a concern in their:<br><br>+ Home neighbourhood; and<br>+ School neighbourhood.   |
| <b>Self- and Parent /proxy-report</b> | There are safe crossings for me/my child to use if I/they used active transport to travel to:<br>+ School;<br>+ Local playground;<br>+ Local park;<br>+ Local shops; and<br>+ Local sports field or facilities.<br><b>Answer:</b> Disagree; Neutral; and Agree. | PR: Birth–10yrs<br>SR: 11–17yrs | Proportion of Australian children and young people who have safe crossings to access if they use active transport to travel to:<br><br>+ School;<br>+ Local playground;<br>+ Local park;<br>+ Local shops; and<br>+ Local sports field or facilities. |
| <b>Self- and Parent /proxy-report</b> | My parents*/I prevent me/my child from being physically active outdoors in our community, on my/their own or with friends, because of (neighbourhood) safety concerns.<br><b>Answer:</b> Disagree; Neutral; and Agree.  | PR: Birth–10yrs<br>SR: 11–17yrs | Proportion of children/parents who are prevented/who prevent their child from being physically active outdoors in their community, on their own or with friends, because of safety concerns — Agree.  |

Note, PR = Parent/proxy-report; SR = Self-report; yrs = years.

\*Parent represents the individual who cares for the child on a permanent basis (i.e., mother or father, caregiver, guardian, grandparent, other relative).

# BEYOND THE GRADE

Authored by:

Kieran Brophy, Assistant Director, Play Australia

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## CONNECTING PEOPLE MUST BE A PRIORITY WHEN DEVELOPING BUILT ENVIRONMENTS AND PLANNING FOR PHYSICAL ACTIVITY INTERVENTIONS.

Children need access to diverse and interconnected spaces to enable their independent mobility, daily active play, and to develop their physical literacy. These are spaces where children can explore, discover, make choices, and take risks for their healthy development.

Australia has some of the best built and natural environments in the world to support neighbourhood play. The COVID-19 pandemic has emphasised the need for these spaces to be local and accessible as children and families spend more time close to home. In addition, many families have looked to neighbours as a critical social support network during this time.

It is essential our neighbourhood spaces foster social connectedness to help facilitate meaningful interactions to develop social capital; feelings of belonging; increase perceptions of safety; and create more active and healthy communities. Building this important social infrastructure improves conditions for future play in neighbourhoods, for individuals and for groups.

Importantly, parent perceptions of safety are critical to providing freedom for children to independently roam and access environments for play, such as walking to school or riding their bike to the playground to meet with friends. Therefore, parents who know their neighbours are more confident and more likely to let their children out to roam and play.

In these ways, social connection is a key driver for use of public space and should therefore be a key focus during the development process of built spaces and, planned for as an ongoing outcome of that space.

When developing built spaces, the consultation process should be equitable and accessible for the community to engage with; most importantly the voices of young people should be elevated and heard. A best practice co-design approach would go further to proactively engage and give community ownership of decision-making over the built space, promoting connection during development to drive future use.

## CONNECTING PEOPLE IN ACTION: 1000 PLAY STREETS

Play Australia's 1000 Play Streets movement, supported by Sport Australia and Office for Recreation, Sport, and Racing South Australia, seeks to empower communities to reclaim their quiet residential streets as important spaces for neighbours of all ages to connect and play, recognising that historically our streets have been built for cars, with neighbourhood social connection as an after-thought.

A Play Street is a simple concept. It is a temporary road closure for play, led by community and supported by the Local Government Authority (LGA).

During the development phase, the LGA supports neighbours to work together and engage with their local community to plan their Play Street. Findings to date show that by working together, neighbours developed connections that led to improved confidence and an increased likelihood that they will continue to support and facilitate play activities post the Play Street gathering.

During Play Streets, neighbours young and old met for the first time and connected to form critical local support networks. These networks have been found to have reduced loneliness and isolation, improved support for play, and bonds formed between children and families have led to more informal play and physical activity.

Building strong social infrastructure is the key lever that opens streets for play.

We must recognise that when our social and built infrastructure are valued equally the outcomes for children's independent mobility, active play, physical literacy, health, and wellbeing are limitless.

Now just imagine, if our residential streets were designed for people from the outset, not just cars... the mind boggles at how much more connected, active, and healthy our communities could be.

**Children need access to diverse and interconnected spaces to enable their independent mobility, daily active play, and to develop their physical literacy.**





## STRATEGIES AND INVESTMENTS

2014  
C+

2016  
D

2018  
D

2022  
C-

### METRICS USED FOR RATING

- + Major Government (Federal, State/Territory, Local) initiatives that were implemented or removed since the last Report Card.
- + Funds and resources committed by the Government (Federal, State/Territory, Local) to various physical activity endeavours, initiatives and organisations.

### Confidence Rating

N/A

Authored by: Lindsey Reece (University of Sydney)

## RATIONALE

Since the 2018 Report Card there has been no notable advancement in government policy, at a national or state and territory level, that prioritises all children and young people to be physically active. We recognise the formal implementation of the Sport 2030 National Sport Plan which released federal funding for national sports participation and physical activity initiatives to get more Australian's moving more often. Substantial investment by some states and territories to reduce the cost barrier for children's participation in organised sport and physical activity through financial incentive voucher programs has gained momentum since the 2018 Report Card and was decisive in improving this year's grade.

## KEY FINDINGS

### Physical Activity Strategies; National

- + Despite a high proportion of the population failing to meet physical activity guidelines and intense advocacy efforts from non-government and non-profit organisations (e.g., National Heart Foundation of Australia, Cancer Council) as well as institutes and professional societies (including the Asia-Pacific Society for Physical Activity), the Federal Government is yet to establish a comprehensive National Physical Activity Plan.
- + The development of a National Physical Activity Plan complemented by a clear measurement plan to monitor and assess progress, with key champions integrated across government, sport and physical activity sectors remains a high priority.
- + The formal implementation of Sport 2030 led by Sport Australia (previously known as Australia Sport Commission) commenced in 2018.

### National Investment in Physical Activity

- + In the 2018/19 Federal Budget, the Australian Government committed more than \$150M to 'drive national sports participation and physical activity initiatives to get more Australian's moving more often'. Grants programs in 2018-2019 to increase participation included community sport infrastructure (\$102.5M); Move it AUS Participation grants (\$28.9M) with children and young people prioritised through the continuation of the Sporting Schools program (\$40.8M).
- + A key focus of the Move it AUS participation grants was tackling physical inactivity and findings from the independent evaluation<sup>182</sup> show funded organisations were successful in engaging physically inactive communities. Yet further work to identify and overcome specific barriers for target groups, including culturally and linguistically diverse, people living with a disability, regional, and remote, are recommended, with longer term strategies to maintain increased physical activity behaviour encouraged.

- + Federal government Department of Health commissioned Deloitte Access Economics<sup>183</sup> to undertake evaluation of Sport Australia Sporting Schools program (SSP) between September 2019 and February 2020. SSP was reportedly well regarded by schools and national sporting organisations (NSO) with the evaluation demonstrating strong reach into communities. The program was generally regarded as value for money, with average expenditure per participant \$13.80 between 2016 and 2019. Both schools and NSOs observed increases in the appreciation of the holistic benefits of sport, with promising impact on children's participation in school. There does not appear to be a strong link to increased participation in community-based sport, suggesting changes in participation are limited to the school environment. Broadening the focus to encompass all forms of physical activity, fostering stronger partnerships and collaboration with community based physical activity, and sporting organisations and aligning strongly with the Sport Australia Physical Literacy Framework, could help strengthen the program. Overall, the evaluation found evidence of strong performance from the sporting school program to achieve its objectives originally set out by government.

- + The development of a widely endorsed National Position Statement on Physical Literacy by Sport Australia was welcomed, along with the development of a Physical Literacy pictorial self-assessment for primary school-aged children – The Physical Literacy in Children Questionnaire (PL-C Quest)<sup>184</sup>. A dedicated webpage, housed on the Sport Australia website is an excellent focal point for compiling extensive resources on Physical Literacy. The development of an NSW Physical literacy continuum is also a substantive achievement. It is pleasing to see a cross-sector collaborative group, a special interest group in Physical Literacy within the Asia-Pacific Society of Physical Activity, driving the physical literacy agenda forwards in Australia and beyond.

- + In 2016, the Federal Government Department of Health launched the Girls Make Your Move campaign in Australia. The Girls Make Your Move campaign was developed to promote and encourage young women aged 12-21 to be more active and reinforce the many benefits of an active life. Since the 2018 Report Card, the phase 3 evaluation report was produced.<sup>185</sup> Phase 3 target audience was expanded to include young women aged up to 24 to reach a greater number of young women and to continue to reinforce positive messaging among the original primary target cohort of 15-18-year-olds. While awareness of the benefits of being physically active, the range of activities available and the ease of access to activities and sport did not increase following phase 3 of the campaign, campaign exposure helped to sustain awareness levels, countering declines in the broader population. Similarly, the campaign helped to sustain intentions to participate in physical activities and sport. This finding that a mass media physical activity campaign achieved high awareness and (largely) positive attitudes, but no meaningful behaviour change is not a surprise. A sustained multi-component intervention, supported by resources information and extensive on the ground support along with an independent evaluation must be embedded in future campaigns.

## Physical Activity Strategies; State and Territory

- + State and Territory based government strategies that prioritise physical activity vary significantly by leadership and governance, content, target population and specificity of outcomes.
- + Since the last report card, the following states and territories have Physical Activity policies or have embedded physical activity within other government policy. Of note are the following: Our Active8 Activate! Queensland;<sup>186</sup> ACT Education Government Physical Activities Policy<sup>187</sup> and ACT Active 2020;<sup>188</sup> Active Victoria 2017-2021;<sup>189</sup> Western Australian Health Promotion Framework 2017-2021;<sup>190</sup> Northern Territory Health Nutrition and Physical Activity Strategy 2015-2020;<sup>191</sup> Be Active Recreation, Sport and Racing Strategic plan 2021-2025;<sup>192</sup> Healthy Tasmania five-year 2016-2021 strategic plan.<sup>193</sup>
- + Except for South Australia and Tasmania, there is a lack of specific identification of children's and young people's physical activity, and the broad co-benefits associated with participation, embedded in state-based policy.
- + The recent release of the Tasmanian Child and Youth Wellbeing Framework,<sup>194</sup> that aligns with the United Nations Convention on the Rights of the Child, explicitly focuses on the broader health and wellbeing agenda. Could this be a seismic shift and political opportunity for physical activity to be incorporated into government solutions for complex societal issues that extend beyond physical activity, with the co-benefits of physical activity recognised? Watch this space.

## State and Territory Investment in Physical Activity

- + Since the last Report Card, all states and territories have implemented various versions of a voucher sports program. Some schemes universally targeted all school-aged children (New South Wales), other targeted communities of need (Northern Territory, Tasmania, Victoria), some focused on younger children (South Australia), or on skill development and water safety (Northern Territory and NSW for 2022 launch), with all reducing the cost for sport registration and membership. With an estimated total investment across all states and territories of over \$470M, there is no denying that investment is substantial. No economic evaluation reports for state and territory-based schemes are publicly available.
- + The integration of independent evaluation within the implementation of voucher programs was a key recommendation in the 2018 Report Card. Published data<sup>195-198</sup> from the NSW Active Kids program<sup>199</sup> has shown significant population reach, observing increased physical activity which was sustained over a six-month period.<sup>200</sup>
- + A social gradient is apparent in sport-related expenditure, with increasing expenditure associated with increasing advantage. It is therefore critical that the implementation of voucher programs focus on equitable and accessible participation with consideration given to priority groups, including physically inactive, women and girls, individuals living with a disability, Aboriginal and Torres Strait Islander's and culturally and linguistically diverse, to reduce health and social inequities.<sup>201, 202</sup>
- + Whilst there is a clear opportunity to promote participation through programs like sport vouchers, they are only one part of a much wider solution. Voucher programs cannot be viewed in isolation. Sufficient on-the-ground resourcing, workforce capability and capacity are just some of the other factors which must be considered.

## HOW CAN WE IMPROVE THE GRADE THE CALL TO ACTION

- + A national physical activity plan, underpinned by a clear measurement and surveillance framework, and co-ordinated national research agenda. Advocacy efforts must continue to increase the visibility and importance of physical activity.
- + A whole systems approach must be adopted, moving away from working in silos to an approach that strengthens multisectoral collaboration. April 2020 saw the timely release of the action-orientated guide for policy makers 'Getting Australia Active III' developed by academics at The University of Sydney. Whilst not specific to children and young people, the systems approach to physical activity was published to inform and guide Australia's achievement of the global target, a 15% relative reduction in the global prevalence of physical inactivity in adults and adolescents by 2030. Learning from this document must inform a system approach to physical activity for children and young people.
- + The co-benefits of increasing children's and young people's physical activity levels realised across whole-of-government, with recognition of their extension beyond health.
- + Children and young people recognised and prioritised as a discrete population within government policy. The role of physical activity policy in addressing the health and social inequities associated with children and young people's participation is yet to be realised in Australia. Physical Activity policy is a win win!
- + Fair play? Equitable, affordable, and inclusive opportunities for physical activity and sport participation are included within COVID-19 state and national recovery plans.<sup>203</sup> Being physically inactive is the single biggest risk factor for adverse outcomes associated with COVID-19.<sup>204</sup>
- + Specific priority groups including women and girls, culturally and linguistically diverse, individuals living with a disability, socioeconomically disadvantaged communities are more likely to be physically inactive. Prioritisation of these groups within policy, accompanied by a targeting of resource and enhanced surveillance are essential tackling inequities.
- + Alignment between program implementation and evaluation, and state and federal policy and political outcomes, are essential.

## WHAT DO WE NEED TO DO?

Given the complexity of this indicator there is no proposed standardised method or recommendation for how data should be operationalised for objective and/or self/parent/proxy-report measures. However, incorporation of independent evaluations for government programs, like sport voucher programs must be prioritised. Such evaluations should include a focus on changes to children's physical activity and lifestyle behaviours, with consideration given to their economic effectiveness and sustainability.





# PHYSICAL FITNESS

2014  
INC

2016  
C

2018  
D+

2022  
D+

## METRICS USED FOR RATING

Comparison of the current levels of aerobic and muscular fitness of Australian children and young people against international norms.<sup>205, 206</sup>

## Confidence Rating



Authored by: Grant Tomkinson (University of North Dakota), Jordan Smith (University of Newcastle)

## RATIONALE

New state data<sup>50, 51</sup> were available for this year's Report Card that allowed both aerobic fitness (measured using 20-m shuttle run performance) and muscular fitness (measured using standing long (broad) jump performance) to be graded. The physical fitness levels of Australian children and young people are below average relative to international norms, and have been stable in recent years, resulting in the same D+ grade as in 2018. However, our confidence rating dropped from 2 stars in 2018 to 1 star in 2022 because new data were only available for a handful of age groups (children and young people aged 9-10 and 14-15 years) from a single state.

## KEY FINDINGS

### State:

- + Objective data show that Australian children (aged 9-10 years) and young people (aged 14-15 years) rank in the 41st percentile (95% confidence interval: 35 to 47) for aerobic fitness and the 28th percentile (95% confidence interval: 21 to 34) for muscular fitness.<sup>50, 51</sup> Rankings were calculated by comparing the aerobic and muscular fitness levels of Australian children and young people to international norms for the 20-m shuttle run and standing long jump, respectively.<sup>205, 206</sup>

## HOW CAN WE IMPROVE THE GRADE?

- + For real improvement in aerobic fitness, children and young people need to do at least 60 minutes each day of moderate- to vigorous-intensity physical activity that makes the heart beat faster.<sup>207</sup> This includes continuous physical activities that use the body's big muscles, like running, biking, or swimming, or playing sports like netball, soccer, or Australian rules football. It doesn't have to be a full 60 minutes at once either — several shorter sessions, including active transportation to/from school, physical education, active play at recess, and organised or unstructured activities after school will work too. Children and young people should also include vigorous or "huff and puff" activities at least three days a week. There are various ways that children and young people can perform vigorous activities. One method, called High Intensity Interval Training (HIIT), involves exercising vigorously for a short period, then having a rest, and repeating a few more times. HIIT is effective for improving aerobic fitness<sup>179</sup> and can provide similar benefits to longer bouts of aerobic exercise, but in far less time.
- + To improve muscular fitness, children and young people need to include muscle and bone strengthening activities in the 60 minutes of daily activity on at least 3 days per week.<sup>207</sup> Muscles and bones get bigger and stronger from activities involving jumping and landing as well as weight-bearing or "resistance" physical activities. These are exercises that cause a muscle or a group of muscles to contract against an external resistance, such as a barbell, exercise band, or one's own body weight. Resistance training can be performed anywhere using different activities and equipment. Jump rope, climbing on playground equipment, push-ups, squats,

lifting weights, and yoga are all weight-bearing activities. As they progress, children and young people can try increasing the time or difficulty of their favourite resistance activities or doing activities more often.

- + Increase public awareness around Australia's physical activity guidelines<sup>207</sup> to increase participation levels and to better highlight the importance of participating in, and the health-related benefits of, both aerobic and muscle/bone strengthening activities. This is especially important during the COVID-19 pandemic because lockdowns have dramatically reduced fitness levels. For instance, overseas evidence indicates the fitness levels of children and young people dropped by 13% after only two months of self-isolation, resulting in the lowest fitness levels in 30 years of national monitoring.<sup>208</sup> Aerobic fitness saw the largest decline, with muscular fitness also slumping.

## WHAT DO WE NEED TO KNOW?

- + A national fitness survey is needed to measure the current fitness levels of Australian children and young people, which includes measures of both aerobic and muscular fitness (e.g., muscular strength, power, endurance). This would also allow changes in fitness over time to be assessed, providing important insights into trends in population health and the effectiveness and progress of public health programs and policies.<sup>209</sup>
- + Health-related criterion-referenced cut-points for both aerobic and muscular fitness among Australian children and young people are needed.<sup>210, 211</sup> This would help identify at-risk children and young people who could benefit from interventions, as well as helping us to interpret the public health consequences of changes in fitness among this population across time.
- + Improved national surveillance is needed to better monitor the number of children and young people who meet the muscle and bone strengthening component of Australia's physical activity guidelines,<sup>207</sup> particularly among those under the age of 15.
- + Advocacy is necessary to bust ongoing myths and to spread the message about the unique contribution of muscle and bone strengthening activities to the health and well-being of children and young people.<sup>212</sup>
- + We need a better understanding of the key barriers (at the individual, family, and institution levels) to promoting aerobic plus muscle and bone strengthening activities for children and young people. This would help guide the design and implementation of age-appropriate interventions.

## WHAT DO WE NEED TO DO?

The use of standardised objective test measures and benchmarks is required to assess the physical fitness levels of Australian children and young people.



Table 11

**Recommended objective methods and how to operationalise the data for Physical Fitness.**

| Method Type | Method /Question   | Age group | How to Operationalise  |
|-------------|--|-----------|--|
| Objective   | 20-m shuttle run or 'beep test' of aerobic fitness be administered by trained personnel using the Australian Sports Commission <sup>213</sup> protocol. <sup>214</sup>                           | 9–17yrs   | <p>Until criterion-referenced cut-points linked with a 'healthy' level of aerobic fitness are established for Australia,<sup>210</sup> the benchmark used to assess aerobic fitness levels for Australian children and young people should be:</p> <p>Comparison of the current levels of aerobic fitness of Australian children and young people against international 20-m shuttle run norms.<sup>206</sup></p>  |
| Objective   | Standing long jump test of muscular fitness (i.e., muscular power, also called "explosive strength") be administered by trained personnel using the Pyke <sup>215</sup> protocol. <sup>216</sup> | 9–17yrs   | <p>Until criterion-referenced cut-points linked with a 'healthy' level of muscular fitness are established for Australia,<sup>211</sup> the benchmark used to assess muscular fitness levels for Australian children and young people should be:</p> <p>Australian children and young people should be:</p> <p>Comparison of the current levels of muscular fitness of Australian children and young people against European standing long jump norms.<sup>205</sup></p> |

Note, yrs = years.



# BEYOND THE GRADE

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## FITNESS FOR FUTURE'S SAKE

*"Give me a child until he is seven and I will give you the man" – Saint Francis Xavier*

This saying, originating in the 16th century, highlights that childhood has long been understood as an important period for shaping our lives. In 2021, this saying has new-found meaning in relation to how being a fit and active child could play a role in forming your future self. Can we predict our adult health status by age 7, or at least by some point in childhood? Research suggests that yes, we potentially can, by measuring childhood physical fitness levels.

Physical fitness includes cardiorespiratory fitness, a measure of how well the body performs during long periods of exercise, and muscular fitness, which refers to the strength, power, and endurance of the muscles. Research that has collected fitness data on people across their life shows that good physical fitness in childhood can lead to better physical fitness<sup>217</sup> and health in later life.<sup>218,219</sup> Beginning in childhood and continuing over decades, these unique studies allow us to determine the role that childhood factors, such as physical fitness, play in the development of a range of chronic conditions such as heart disease and diabetes.

In Australia, we are in the enviable position to have one of the most important, long-standing studies of its kind that has shown the importance of childhood physical fitness for future health. Findings from the Childhood Determinants of Adult Health (CDAH) study show that children aged 7–15 years with higher levels of physical fitness are less likely to develop risk factors for diabetes and heart attack, such as prediabetes,<sup>220</sup> metabolic syndrome,<sup>221, 222</sup> insulin resistance, beta cell function, obesity,<sup>223, 224</sup> inflammation,<sup>225</sup> and blood lipids,<sup>226</sup> up to around 30 years later in adulthood. Similar results have been found in overseas studies, including the European Youth Heart

Study,<sup>227, 228</sup> the Amsterdam Growth and Health Longitudinal Study,<sup>229-232</sup> and a large Swedish cohort of over one million male participants, which highlighted the association between lower levels of physical fitness at age 18 years and an increased risk of early death,<sup>233</sup> heart attack,<sup>234</sup> heart failure,<sup>235</sup> and depression<sup>236</sup> in later life. Although our understanding of the long-term health-related benefits of good childhood physical fitness has increased over the past decade,<sup>218, 219</sup> gaps in our understanding remain. For example, more research is needed to: determine if physical fitness levels measured in children and young people are associated with mental health, cardiovascular disease, and death in adulthood; determine the causal nature of fitness-disease outcome associations by considering genetic variants (Mendelian randomisation); separate the genetic vs. environmental and lifestyle contribution of fitness on disease outcomes; promote the importance of both cardiorespiratory fitness and muscular fitness; quantify the physical fitness level required to prevent poor health outcomes; develop, implement, and evaluate interventions aimed at improving childhood physical fitness and long-term health.

*"An ounce of prevention is worth a pound of cure" – Benjamin Franklin*

The emerging body of evidence highlights how measuring physical fitness levels in childhood could help identify high risk individuals early in life and help to prevent the development of a range of poor health outcomes by assisting children to manage their future risk. However, in Australia, we do not systematically measure or monitor children's physical fitness levels. To see the range of benefits associated with national health and fitness surveillance systems, we could look to other countries for inspiration. For example, in Slovenia, a national fitness surveillance system (SLOfit) identified a decline in childhood physical fitness levels,<sup>237</sup> which led to the implementation of the Healthy Lifestyle intervention program. Now, more than 80% of Slovenian schoolchildren have adequate physical fitness levels.<sup>237</sup> Implementing similar strategies in Australia and other parts of the world could give all children and young people the best opportunity to lead healthy and fit lives heading into adulthood.





# SUMMARY OF GRADES

Table 12

## Summary of grades assigned for the 2014, 2016 and 2018 AHKA Report Cards on Physical Activity for Children and Young People.

| Indicator                            | Grade |      |      |      | Metrics   |
|--------------------------------------|-------|------|------|------|---|
|                                      | 2014  | 2016 | 2018 | 2021 |   |
| Overall PA Levels                    | D–    | D–   | D–   | D–   | <p>Proportion of Australian children and young people who meet the Australian 24-hour Movement Guidelines (that align with the Global Recommendations on Physical Activity for Health for 5-17 years) and recommend:</p> <ul style="list-style-type: none"> <li>+ infants (birth to 12 months) be physically active several times a day including accumulating at least 30 minutes of tummy time while awake.</li> <li>+ toddlers (1-2 years) accumulate at least 180 minutes of physical activity of any intensity each day, including energetic play.</li> <li>+ pre-schoolers (3-5 years) accumulate at least 180 minutes of physical activity including at least 60 minutes of energetic play (moderate- to vigorous-intensity physical activity).</li> <li>+ children and young people (5-17 years) accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity per day, each day (Australian guidelines) or on average (Global Recommendations); and engage in vigorous activities and activities that strengthen muscle and bone on at least 3 days per week.</li> </ul>   |
| Organised Sport and PA Participation | B–    | B    | B–   | B–   | Proportion of Australian children and young people participating in organised sport and/or physical activity at least once per week.  |
| Active Transport                     | C     | C–   | D+   | D+   | The proportion of Australian school children and young people for whom active transport (any form of human powered transportation e.g., locomotion on foot, or bicycle, skateboard, etc) is their usual mode of transport to and from school for at least part of the journey. "Usual" is defined as at least 5 trips out of 10 or on at least 2.5 school days, or child/parent indicates active transport is their usual mode.   |
| Active Play                          | INC   | INC  | INC  | INC  | No consensus on a primary metric could be reached.  |
| Screen Time                          | D–    | D–   | D–   | D–   | <p>Proportion of Australian children and young people meeting the Australian Movement Guidelines for screen time each day:</p> <ul style="list-style-type: none"> <li>+ Infants (birth to 12 months) should not be allowed any screen time.</li> <li>+ Toddlers (1 to 2 years) should not be allowed any sedentary screen time.</li> <li>+ Pre-schoolers (3 to 5 years) should not be allowed any more than 1 hour of sedentary screen time per day.</li> <li>+ Children and young people (5 to 17 years) should spend no more than 2 hours of sedentary recreational screen time per day.</li> </ul>   |
| Family and Peers                     | C     | C+   | C+   | C+   | <ul style="list-style-type: none"> <li>+ Proportion of Australian children not using a screen at least 30 minutes before bedtime.</li> <li>+ Proportion of Australian children and young people whose family apply rules or restrictions to their screen use (time spent, what is viewed, etc.).</li> <li>+ Proportion of Australian children and young people who receive some form of encouragement or support from their parents/caregivers to be physically active.</li> <li>+ Proportion of Australian children and young people who receive some form of encouragement or support from their peers to be physically active.</li> <li>+ Proportion of Australian children and young people who engage in 'co-participation physical activity' with their parents/caregivers.</li> <li>+ Proportion of Australian parents/caregivers who meet the Australian Physical Activity Guidelines for Adults (adults should take part in at least 150 minutes of moderate activity or 75 minutes of vigorous activity each week, or an equivalent combination thereof, to enhance their health).</li> <li>+ Proportion of homes with adequate physical activity equipment.</li> </ul> |

Continued overleaf...

**Table 12** Continued

**Summary of grades assigned for the 2014, 2016 and 2018 AHKA Report Cards on Physical Activity for Children and Young People.**

| Indicator                           | Grade |      |      |      | Metrics  |
|-------------------------------------|-------|------|------|------|--|
|                                     | 2014  | 2016 | 2018 | 2021 |  |
| PA Participation in Schools         | INC   | INC  | B    | †    | Proportion of Australian children and young people accumulating at least 30 minutes of MVPA throughout the school day.   |
| School                              | B-    | B-   | B+   | C+   | <ul style="list-style-type: none"> <li>+ Proportion of schools that schedule the delivery of physical education (PE) and other planned physical activities, such as school sport, active lessons and classroom energiser breaks in compliance with state-based mandates.</li> <li>+ Proportion of schools that have a specialist PE teacher take PE lessons.</li> <li>+ Proportion of schools that have good or excellent physical activity facilities/equipment available for PE and sport. Of note, this metric changed from "Proportion of schools that have physical activity facilities/equipment available to students to use during school hours".</li> </ul> |
| Community and the Built Environment | A-    | A-   | A-   | A-   | <ul style="list-style-type: none"> <li>+ Proportion of secondary school-aged students who report there are parks or sports grounds near their home that they can easily reach.</li> <li>+ Proportion of parents of children who report they have good parks, playgrounds and play spaces in their neighbourhood.</li> <li>+ Proportion of parents of children who report they have a safe neighbourhood.</li> </ul>  |
| Strategies and Investments          | C+    | D    | D    | C-   | <ul style="list-style-type: none"> <li>+ Major Government (Federal, State/Territory, Local) initiatives that were implemented or removed since the last Report Card.</li> <li>+ Funds and resources committed by the Government (Federal, State/Territory, Local) to various physical activity endeavours, initiatives and organisations.</li> </ul>   |
| Physical Fitness                    | INC   | C-   | D+   | D+   | Comparison of the current levels of aerobic and muscular fitness of Australian children and young people against international norms.  |
| Movement Skills                     | INC   | D    | D+   | ‡    | Proportion of Australian children and young people in Grade 6, with mastery in locomotor and object-control ability (boys and girls examined separately).  |

Note, INC = Incomplete Grade; MVPA = moderate-to-vigorous physical activity; and PA = Physical Activity.

† Physical Activity Participation in Schools was this year combined with the School indicator and given a single grade to align with the Global Matrix. ‡ This indicator was not graded in the current report card to align with the Global Matrix indicators.



### ABBREVIATIONS

|                  |   |
|------------------|---|
| <b>ABS</b>       | Australian Bureau of Statistics   |
| <b>ACTGHS</b>    | ACT General Health Survey   |
| <b>ACTPANS</b>   | ACT Year 6 Physical Activity and Nutrition Survey                               |
| <b>AHKA</b>      | Active Healthy Kids Australia   |
| <b>AIFS</b>      | Australian Institute of Family Studies  |
| <b>ASSAD</b>     | Australian Secondary Students' Alcohol and Drug Survey                          |
| <b>AIFS</b>      | Australian Institute of Family Studies  |
| <b>GVHBMS</b>    | Goulburn Valley Health Behaviours Monitoring Study                              |
| <b>H</b>         | Hour/s  |
| <b>HIIT</b>      | High Intensity Interval Training  |
| <b>INC</b>       | Incomplete  |
| <b>iPLAY</b>     | Internet-based Professional Learning to help teachers support Activity in Youth |
| <b>ISCOLE</b>    | The International Study of Childhood Obesity, Lifestyle and the Environment     |
| <b>km</b>        | Kilometres  |
| <b>LSAC</b>      | Longitudinal Study of Australian Children                                       |
| <b>M</b>         | Metres  |
| <b>MVPA</b>      | Moderate- to vigorous-intensity physical activity                               |
| <b>NASSDA</b>    | National Secondary Students' Diet and Activity Survey                           |
| <b>NHS</b>       | National Health Survey  |
| <b>NSW CPHS</b>  | NSW Child Preventive Health Survey  |
| <b>NSW SPANS</b> | NSW Schools Physical Activity and Nutrition Survey                              |

|                     |   |
|---------------------|---|
| <b>NSW SSHBS</b>    | NSW School Students Health Behaviours Survey  |
| <b>PA</b>           | Physical activity   |
| <b>PACE</b>         | Physically Active Children in Education   |
| <b>PE</b>           | Physical education  |
| <b>PLAYCE</b>       | PLAY Spaces and Environments for Children's Physical Activity Study                   |
| <b>PR</b>           | Parent/Proxy-report   |
| <b>QLD CPHS</b>     | QLD Child Preventive Health Survey  |
| <b>RCH</b>          | Royal Children's Hospital   |
| <b>RT FOR TEENS</b> | Resistance Training for Teens   |
| <b>SA DECD WEC</b>  | SA Department for Education and Child Development Wellbeing and Engagement Collection |
| <b>SAPHS</b>        | South Australian Population Health Survey   |
| <b>SR</b>           | Self-report   |
| <b>TR</b>           | Teacher report  |
| <b>TV</b>           | Television  |
| <b>VCHWS</b>        | Victorian Child Health and Wellbeing Survey   |
| <b>VSHAWS</b>       | Victorian Student Health and Wellbeing Survey   |
| <b>WA HWSS</b>      | Western Australia Health and Wellbeing Surveillance System                            |
| <b>WHO STOPS</b>    | Whole of Systems Trial of Prevention Strategies for Childhood Obesity                 |
| <b>YRS</b>          | Years   |





# ACKNOWLEDGEMENTS

## **AusPlay - The Australian sport and physical activity participation survey**

AusPlay is a large-scale national population tracking survey funded and led by Sport Australia (the Australian Sports Commission). All AusPlay data are the intellectual property of Sport Australia (the Australian Sports Commission).

## **Australian Bureau of Statistics National Health Survey (ABS NHS)**

This National Health Survey has been providing information about the health and wellbeing of people in Australia since 1977, including the prevalence of long-term health conditions, health risk factors such as smoking, drinking alcohol, diet and physical activity, and demographic and socioeconomic characteristics.

## **Australian Bureau of Statistics Childhood Education and Care Survey (ABS CEaCS)**

The Childhood Education and Care Survey (CEaCS) covers the topics of childcare and early childhood education and learning activities for children aged less than 13 years. This survey has been undertaken since 1969 (known as the Child Care Survey until 2005).

## **Australian Secondary Students' Alcohol and Drug Survey (ASSAD Survey)**

Aggregate data were used from the Australian Secondary Students' Alcohol and Drug (ASSAD) Survey across various jurisdictions. This national survey is administered at the state/territory level with funding from the Australian Government Department of Health, local jurisdictional government departments and/or Cancer Councils

## **ACT General Health Survey (ACTGHS)**

The ACT General Health Survey (ACTGHS) collects population health data to gain a comprehensive picture of health and wellbeing in the ACT, and to monitor trends over time for key health indicators, such as prevalence of smoking and overweight and obesity. Data is reported in the biennial Chief Health Officer's Report and contributes to various ACT Government reports.

## **ACT Physical Activity and Nutrition Survey (ACTPANS)**

The Report Card used data from 2018 ACTPANS. We acknowledge the role of ACT Health and ACT Education and Training Directorate staff in managing and co-ordinating the survey. The use of ACTPANS data is authorised by the ACT Chief Health Officer.

## **Goulburn Valley Health Behaviours Monitoring Study (GVHBMS)**

GVHBMS received funding from the Goulburn Valley Primary Care Partnership. Acknowledgement is extended to the Victorian Department of Health and Human Services and the Victorian Department of Education and Training.

## **iPLAY (NSW)**

Data were provided by one of the Chief Investigators, Professor David Lubans from University of Newcastle, with permission from the Principal Investigator, Professor Chris Lonsdale from Australian Catholic University.

## **JTC**

Data were provided by the Principal Investigator, Professor Leon Straker from Curtin University.

## **Longitudinal Study of Australian Children (LSAC)**

The Report Card used unit record data from the Growing Up in Australia, the Longitudinal Study of Australian Children. The study is conducted in partnership with the Department of Social Services, the Australian Institute of Family Studies (AIFS) and the Australian Bureau of Statistics (ABS). The findings and views reported in this paper are those of the author and should not be attributed to the DSS, the AIFS or the ABS.

## **National Secondary Students' Diet and Activity (NaSSDA) survey**

The Report Card used aggregated data from the National Secondary Students' Diet and Activity (NaSSDA) survey.

The 2018 survey round was principally funded by state and territory Cancer Councils through Cancer Council Australia, with additional funding support received from the South Australian Health and Medical Research Institute.

## **NSW Child Population Health Survey (NSW CPHS)**

The Report Card used data provided by the NSW Ministry of Health. The data provided is also managed by the NSW Ministry of Health.

## **NSW School Students Health Behaviours Survey (NSW SSHBS)**

The Report Card used data provided by the NSW Ministry of Health. The data provided is also managed by the NSW Ministry of Health.

The Department of Health, Prevention Division, Preventive Health Branch provided aggregate results from the child preventive health telephone survey for the Report Card. The interpretation of these results are those of the report authors.

## **Physically Active Children in Education (PACE)**

PACE is a multi-component implementation strategy that is being scaled up in 100 primary schools across New South Wales, Australia. PACE is available to primary schools across NSW with funding from the Medical Research Future Fund.

## **PLAY Spaces and Environments for Children's Physical Activity Study (PLAYCE)**

The Report Card used data from 2018 'PLAY Spaces and Environments for Children's Physical Activity' (PLAYCE) Study. The PLAYCE study was funded by the WA Health Promotion Foundation (Healthway; #24219). Data were provided by the Principal Investigator, Associate Professor Hayley Christian from The University of Western Australia.

## **QLD Child Preventive Health Survey (QLD CPHS)**

Aggregate data from the Queensland Child Preventive Health Survey, operated by Queensland Health, were used. The survey involves telephone interviews with the parents of 2,500 children aged 5 through 17 years annually.

### **Resistance Training for Teens (RT for Teens)**

The Resistance Training for Teens (RT for Teens) program is available to all secondary schools across NSW with funding from the NSW Department of Education School Sport Unit and the Australian Research Council. Data were provided by the Principal Investigator, Professor David Lubans from the University of Newcastle.

### **Royal Children's Hospital National Child Health Poll (RCH Poll)**

The Report Card used data provided by the Royal Children's Hospital National Child Health Poll (RCH Poll). The RCH Poll is a periodic national survey of a representative sample of 2000 Australian parents of children aged <18 years. The RCH Poll is funded by the Royal Children's Hospital Foundation. The findings and views reported in this paper are those of the authors and should not be attributed to the Royal Children's Hospital Melbourne.

### **SA Department for Education and Child Development Wellbeing and Engagement Collection (SA DECD WEC)**

The Wellbeing and Engagement Collection survey is completed by young people across South Australia. The data are collected and managed by the System Performance Division, Department for Education. The opinions expressed in this work are those of the authors and may not represent the position or policy of the Department for Education.

### **South Australian Population Health Survey (SAPHS)**

The South Australian Population Health Survey (SAPHS) is a state-wide population health survey, which aims to monitor the health of all South Australians. Data is collected every month and anyone with access to a phone can participate in the survey.

### **Transform-Us!**

Transform-Us! is available to all primary schools across Victoria with funding from the Department of Education and Training Victorian and the National Health and Medical Research Council. Data were provided by the Principal Investigator, Professor Jo Salmon from Deakin University.

### **Victorian Child Health & Wellbeing Survey (VCHWS)**

The Report Card used data provided by the Victorian Department of Education and Training.

### **Victorian Student Health and Wellbeing Survey (VSHAWS)**

The Report Card used data provided by the Victorian Department of Education and Training.

### **Western Australia Health and Wellbeing Surveillance System (WA HWSS)**

The Report Card used aggregate data from the WA HWSS, funded by the Western Australian Department of Health.

The WA Health and Wellbeing Surveillance (HWSS) was established by the Department of Health in 2002 to monitor the health status of the general WA population. Each month, approximately 550 randomly selected households take part in a telephone survey.

### **Whole of Systems Trial of Prevention Strategies for Childhood Obesity (WHO STOPS)**

WHO STOPS is supported by a NHMRC Partnership Grant (GNT1114118), with additional funding support from the Western Alliance. Acknowledgement is extended to the Victorian Department of Health and Human Services and the Victorian Department of Education and Training.

### **Young Screens Study**

Data were provided by the Principal Investigator, Professor Leon Straker from Curtin University.



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