

# Results from the Healthy Active Kids South Africa 2018 Report Card

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**Background.** Healthy Active Kids South Africa (HAKSA) Report Cards were produced in 2007, 2010, 2014 and 2016.

**Objective.** The 2018 Report Card aims to report on the latest available evidence relating to the physical activity (PA), nutrition and body composition of South African (SA) children and adolescents.

**Methods.** A review was conducted using the following databases: PubMed; Africa Journals Online; and Africa-Wide (EBSCOhost). Articles published from January 2016 to September 2018 were included for review by the HAKSA scientific advisory group. Data were extracted, and a grade for each indicator was assigned based on the available evidence and the consensus of the scientific advisory group. This included 12 PA indicators, 6 nutrition indicators and 3 body composition indicators.

**Results.** There was no evidence of a significant change in any of the indicators since the 2016 Report Card. Grades for certain indicators have been downgraded (from 2016) to bring these to the attention of relevant stakeholders and industry. These include food insecurity and grades that relate to the implementation of policy on PA and nutrition in the school environment, and on advertising and media relating to nutrition.

**Conclusion.** Key priorities for action include: safe opportunities for physical activity; minimising the gap between policy and implementation (school culture and environment, and government strategies); and the double burden of over- and undernutrition, which relates to the continuing concern about food insecurity in SA. There is a need for further research, including surveillance, on all indicators, for future Report Cards.

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Physical activity (PA) is beneficial for the physical and mental health of children and adolescents (0 - 17 years old),<sup>[1,2]</sup> while higher levels of sedentary behaviour (particularly screen time) are associated with unfavourable health outcomes.<sup>[3,4]</sup> Nutrition has been recognised as a factor contributing to the development of overweight/obesity in children and adolescents.<sup>[5]</sup> A nutrient-dense diet and regular PA are beneficial for overall child growth, health and wellbeing.<sup>[6]</sup> Healthy lifestyle behaviours also play a role in cognitive development and school achievement in children and adolescents.<sup>[7]</sup>

The Healthy Active Kids South Africa (HAKSA) Report Card reviews the most current evidence on the PA, nutrition and body composition of South African (SA) children and adolescents. This evidence provides the basis from which to guide policy, develop interventions and programmes and strengthen advocacy to create healthy environments and support healthy nutrition and PA, and discourage sedentary behaviours in SA children and adolescents. Children and adolescents (0 - 19 years old) make up 39% of the total population of SA (~52 million people in total).<sup>[8]</sup> Although this proportion of children and adolescents is relatively high, it is lower than those in some other African countries: the proportion of children and adolescents 0 - 14 years old (a narrower age range) is also 39% in Zimbabwe (population ~13.8 million), and in Nigeria the proportion of 0 - 14 year olds is 43% (population ~190.6 million).<sup>[9]</sup>

Results from the HAKSA 2016 Report Card indicated that more than 50% of SA children were meeting PA recommendations, and

government policies for the support of sport and PA in children and adolescents were evident. Areas of concern were high amounts of screen time and sedentary behaviour, as well as low fruit and vegetable consumption, and high intake of sugar-sweetened beverages (SSBs) and fast foods. Undernutrition and overweight/obesity were highlighted as a concern, as overweight prevalence was increasing,<sup>[10]</sup> and the HAKSA 2016 Report Card highlighted the persistence of the double burden of under- and over-nutrition across South Africa.<sup>[11]</sup> The HAKSA 2018 Report Card is the fifth in the series (since 2007),<sup>[10-12]</sup> and aims to report on the available evidence relating to PA, sedentary behaviours, nutrition and body composition of SA children and adolescents (3 - 18 years old) published since the 2016 Report Card. In addition, we consider the related environmental and ecological factors that may be barriers to or facilitators for healthy eating and PA in SA children and adolescents.

## Methods

The HAKSA 2018 Report Card has been developed and produced by a scientific advisory group consisting of 29 academics and/or content experts, with group leaders for physical activity, nutrition, body composition and early childhood content (in the context of this article, 'early childhood' refers to preschool-aged children, or those aged between 3 and 5 years old). Comprehensive searches on PubMed, Africa Journals Online, Africa-Wide Information (hosted by EBSCO) databases for evidence published from January 2016 -

September 2018 on PA, nutrition and body composition in SA children and adolescents (3 - 18 years old) were conducted. Exclusion criteria were (i) review articles; (ii) studies in which the participants were exclusively over 18 years old; (iii) studies conducted outside of SA; and (iv) articles included in previous Report Cards. The HAKSA 2018 Report Card comprises 3 categories of indicators: PA, nutrition and body composition (Table 1). The PA indicators are aligned to a larger, international initiative, the Active Healthy Kids Global Alliance, which involves 49 countries.<sup>[13]</sup> Data from these countries are harmonised for comparison.

The search yielded 805 titles, of which 62 were extracted for consideration (35 PA, 14 nutrition, 7 body composition and 9 early childhood (covering PA and body composition), with some overlap between different indicators). In addition, hand-searching was conducted by members of the scientific advisory group. Members of the group were each assigned between 2 and 4 full manuscripts to critically appraise.<sup>[14]</sup> Key study methods and findings relevant to the indicators were extracted and submitted to group leaders, who then summarised the findings for their theme. Where necessary, cross-checking of extracted data was done by the group leaders and first author of the present article. Content groups were asked to compile a summary report and to propose grades (with justification) for each indicator, taking into consideration the grades assigned in

the HAKSA 2016 Report Card, to assess whether any improvements had occurred.<sup>[10]</sup> These grades were then discussed in order to reach consensus within each group, and all groups were provided with an opportunity to comment on them so that there was consensus on all grades within the scientific advisory group.

Meetings were held in person and online to reach consensus on the grade assignment. Grades were assigned to each indicator within each of the four categories, ranging from A to F (Table 2), and a rationale for each grade was constructed.

## Results

Most of the indicators were informed by smaller regional studies, as the only national data available for the past 2 years related to active transportation, the National School Nutrition Programme (NSNP), food security and body composition. Tables 3 - 5 provide the grade and a rationale for each indicator within the categories of PA, nutrition and body composition, respectively. A full reference list is available on request from the authors. Table 6 presents grades assigned for the 2014, 2016 and 2018 Report Cards, to indicate progress or lack thereof.

## Discussion

There was no evidence of improvements or declines since 2016 in any of the PA, nutrition and body composition indicators included in the

**Table 1. HAKSA 2018 Report Card grade categories and indicators**

Category	Indicator
Physical activity	<ul style="list-style-type: none"> <li>• Overall physical activity</li> <li>• Early childhood physical activity</li> <li>• Organised sport participation</li> <li>• Active play</li> <li>• Active transportation</li> <li>• Sedentary behaviours</li> <li>• Early childhood sedentary behaviour</li> <li>• Physical fitness</li> <li>• Family and peers</li> <li>• School</li> <li>• Community and environment</li> <li>• Government</li> </ul>
Nutrition	<ul style="list-style-type: none"> <li>• Fruit and vegetable intake</li> <li>• Snacking, SSBs, dietary sodium, fast food intake</li> <li>• School nutrition culture and environment: tuck shops, vegetable gardens and nutrition education</li> <li>• NSNP</li> <li>• Food security</li> <li>• Advertising and media</li> </ul>
Body composition	<ul style="list-style-type: none"> <li>• Overweight/obesity</li> <li>• Undernutrition</li> <li>• Early childhood body composition</li> </ul>

HAKSA = Healthy Active Kids South Africa; SSB = sugar-sweetened beverage; NSNP = National School Nutrition Programme.

**Table 2. HAKSA grade descriptions**

Grade*	Description
A	Succeeding with a large majority of children and youth (81 - 100%)
B	Succeeding with well over half of children and youth (61 - 80%)
C	Succeeding with about half of children and youth (41 - 60%)
D	Succeeding with less than half, but some, children and youth (21 - 40%)
F	Succeeding with very few children and youth (0 - 20%)
INC	Inconclusive owing to insufficient data

HAKSA = Healthy Active Kids South Africa.

\*When deciding on grades, certain grades were 'minus' grades (e.g. C-) if they were believed not to fully meet the criteria for the given grade (C), but also did not meet the criteria for a lower grade.

**Table 3. HAKSA 2018 PA grades and rationale**

PA indicator	Grade	Rationale
Overall PA	C	A study that objectively measured PA (ISCOLE, 9 - 11 years old), and another using self-report, indicated that 48 - 51.7% of SA children are meeting the 1 hour of MVPA per day recommendation. <sup>[15-17]</sup> In these studies, mean (standard deviation) daily MVPA ranged from 56.6 (23.4) to 64.9 (25.5) minutes. Other self-report studies reported higher levels of meeting PA recommendations. <sup>[18-20]</sup> Other evidence highlights that higher PA levels are associated with a lower likelihood of obesity, <sup>[16]</sup> better quality of life, <sup>[20]</sup> better motor performance <sup>[19]</sup> and reduced likelihood of using tobacco and marijuana. <sup>[21]</sup> Since there is no new evidence indicating that overall PA levels are improving, the grade remains a C.
Early childhood PA	A-	Using previous PA guidelines (180 minutes per day of total PA) <sup>[22]</sup> 100% of preschool-aged children reportedly met the recommendations in one study. <sup>[23]</sup> In terms of new guidelines (180 minutes per day including 60 minutes of 'energetic play'), <sup>[24,25]</sup> 78.2% of pre-schoolers from rural SA met guidelines. <sup>[26]</sup> New evidence reinforces previous findings <sup>[10]</sup> that gross motor skills proficiency in preschool-aged children in SA is adequate, and in some instances superior compared to available norms. <sup>[23,26,27]</sup> However, several barriers to preschool-aged children engaging in PA or 'active play' have been reported, including: crime; lack of resources; lack of space; and facilities. <sup>[28-30]</sup> Parents in high-income areas perceived screen-based technology as a significant barrier to preschool children being physically active. <sup>[29]</sup> A grade of A- is therefore assigned.
Organised sport participation	D	The grade remains a D since there are no apparent changes in levels of participation, and there is no evidence of new interventions, strategies or policies to improve participation.
Active play	INC	Data used for the overall PA and early childhood PA suggest that active play may be taking place despite some challenges (e.g. safety). Researchers have reported on important contextual information (e.g. resourcefulness, social interaction, play objects, play environment); <sup>[30]</sup> however, we still do not have a concrete measure of active play. The grade therefore remains inconclusive.
Active transportation	C	There is no evidence to suggest that active transportation has improved. Many (81%) children and adolescents (6 - 15 years old) walk to school without adult supervision in low-income settings, and safety remains a concern <sup>[31,32]</sup> - 61% of parents report being uncomfortable with their child walking to school, <sup>[32]</sup> but are not necessarily in a position to improve this situation. Initiatives to improve the safety of active transportation have been trialed in certain regions; however, there are issues around sustainability and feasibility. The grade therefore remains a C.
Sedentary behaviours	F	There is no evidence to suggest that screen-time use is decreasing, and may in fact be getting worse as smart phones become more accessible and affordable. Furthermore, evidence indicates links between screen-based social networking and risky behaviours in adolescents. <sup>[33]</sup> Data from ISCOLE indicates that 9 - 11-year-old children are spending an average of 3.3 hours on screens per day, with only 34% of children meeting the screen-time guideline of <2 hours per day. <sup>[16,17]</sup> Based on the available evidence of screen time not decreasing, and the potential risks of excess screen time in adolescents, the grade remains an F.
Early childhood sedentary behaviour	INC	Children attending preschools in low- and high-income urban areas spend approximately 73% of the preschool day sedentary, <sup>[23]</sup> which is similar to children in rural areas (70%). <sup>[26]</sup> The percentage of preschool children in a rural, low-income setting meeting screen-time guidelines (<1 hour per day) <sup>[24,25]</sup> was 98% (parent-reported). <sup>[26]</sup> However, 94% of infants and toddlers were reported to exceed screen-time guidelines (no screen time for <2-year-olds), <sup>[24,25]</sup> and TV time was positively associated with BMI z-scores. <sup>[34]</sup> Although this study was conducted in children below the target age group, it highlights a potential problem for the subsequent preschool years. Based on limited evidence and equivocal findings in this age group, the grade is inconclusive.
Physical fitness	INC	There are no recent data reporting on fitness levels in children and adolescents, so the grade has been changed to INC.
Family and peer support	C-	There are very few data on the proportion of parents or peers supporting PA, but recent evidence <sup>[35]</sup> seems to support previous findings regarding the importance of parent support (but indicate that this may be limited), so the grade remains a C-.
School	D-	New evidence indicates that the proportion of children participating in school PE is still sub-optimal, and that the policy-implementation gap is widening. In ISCOLE, SA was the country (out of 12) with the greatest proportion of learners not participating in PE (32%). <sup>[36]</sup> There seems to be no clear evidence of progress in the prioritisation of PE in the school curriculum or environment at a national level. The grade has therefore been downgraded to a D-.
Community and environment	C-	In ISCOLE, children living in unsafe areas with a high traffic risk did less MVPA after school in neighbourhoods (mostly low income). <sup>[37]</sup> Although various community engagement and civil society initiatives address the safety of children in communities, these efforts appear to be taking place in a small number of locations. The grade therefore remains a C-.
Government	C	The Sport and Recreation SA National School Sport Programme remained a core deliverable in the 2016 - 2017 strategic plan, and with commitment from the National Department of Basic Education, aimed to maximise access to sport, recreation and PA in every school in SA. However, compliance with this programme appears to remain poor, and there is a lack of documented evidence of policy implementation and evaluation. There is also no evidence of new PA or sport policies influencing children and adolescents. The grade has therefore been downgraded to a C.

HAKSA = Healthy Active Kids South Africa; PA = physical activity; ISCOLE = International Study of Childhood Obesity, Lifestyle and the Environment; MVPA = moderate-to vigorous-intensity PA; INC = inconclusive; BMI = body mass index; PE = physical education.

**Table 4. HAKSA 2018 nutrition grades and rationale**

Nutrition indicator	Grade	Rationale
Fruit and vegetable intake	D	The national survey of the NSNP indicated that only 21.4% of schools served the recommended quantity of fruit and vegetables. <sup>[38]</sup> No other studies were found relating to this grade. The grade therefore remains a D.
Snacking, SSBs, dietary sodium, fast food	F	Despite the bleak economic climate in SA, the fast food stores count indicates a growth of about 4.8% over 2017 while the sale of soft drinks and fruit juices increased by 7.5% and 12.7%, respectively, in 2016. <sup>[39]</sup> The ISCOLE study reported that SA children consumed >4 SSBs per week, and had the highest intake of all countries in the study. <sup>[40]</sup> Furthermore, children in the lowest income groups had higher odds for 'unhealthy dietary pattern' scores than children in the highest socioeconomic status groups. <sup>[41]</sup> The new Sugary Beverages Levy ('sugar tax') has been effective since 1 April 2018 in SA, while the manufacturing of food products with lower salt levels was implemented in 30 June 2016 and further reductions will be effective from 2019. In response to the sugar tax, the largest manufacturer of soft drinks in SA introduced 'shrinkflation', cutting portion sizes sold per bottle/can by ~10%, while keeping the price the same in order to 'help people consume less sugar'. <sup>[42]</sup> Although these new fiscal measures have been promulgated with the aim of reducing sugar and salt intake, the impact on behaviour has not yet been measured. Although these policy initiatives are encouraging, the grade remains an F.
School nutrition culture and environment	D-	School tuck shops, vegetable gardens and nutrition education through the school curriculum were considered for this grade. Although several guidelines and programmes to establish healthy school tuck shops are available, no regulation of implementation of these exists. Food bought from tuckshops or vendors is mostly unhealthy, with low nutrient density, high energy density and high levels of added salt and sugar. <sup>[43]</sup> This is concerning as about 50% of school-going children in SA regularly buy food at school, and do not pack lunch boxes. <sup>[43]</sup> The NSNP study observed that 40% of schools had food gardens that supply produce for NSNP meals, 23.9% of gardens were well maintained and 31.4% had vegetables growing in them. <sup>[38]</sup> According to a regional qualitative study, many barriers exist that hinder the successful implementation of nutrition education in the curriculum. <sup>[44]</sup> Since there has been insufficient progress in establishing healthy school nutrition culture and environment, a grade of D- was assigned.
NSNP	C	The NSNP has wide reach, providing meals to >9 million children in public schools (all children in quintiles 1 - 3). A national study confirmed that 96.2% of these schools served the NSNP meal, and that 72.7% of learners were observed eating the NSNP meal on the day of data collection. However, only 47.4% of the children said they 'always', and a further 47.6% 'sometimes' eat the NSNP meal. <sup>[38]</sup> Average expenditure per day on the NSNP was calculated as ZAR2.51 per child. <sup>[45]</sup> There are many challenges with the implementation of the NSNP, including: children not receiving the recommended amount and type of food (as unintended beneficiaries eat NSNP meals, while grants do not make provision for this); nutrition composition of meals is mostly not in line with prescribed guidelines; food is served too late (after 10h00 in 81.9% of schools) for its intended purpose of improved concentration; and health and safety concerns regarding food preparation. Furthermore, there are days (and in some cases, months) that feeding does not take place due to funds not being received on time, late delivery of foods or lack of fuel for cooking. <sup>[38]</sup> Owing to these challenges, the grade has been downgraded to a C.
Food security	D-	Just over half (56%) of South Africans live on ZAR30 or less per day, while extreme poverty (<ZAR441 per person per month) increased by 2.8 million in the last 4 years. <sup>[46]</sup> The current unemployment rate of 27.2% (June 2018) indicates no improvement over the past two decades. <sup>[47]</sup> Furthermore, over the past 3 years the country has experienced the worst drought in more than 100 years, consequently influencing local farming produce from livestock and crops. Food inflation spiked from 10.5% in April 2016 to 11.8% in December 2016, thereafter decreasing to its most recent level of 3.5% in June 2018. <sup>[48]</sup> The dire economic situation in SA, high unemployment and food inflation rates directly influence individual and household food security, with children aged ≤17 years one of the most vulnerable groups to be affected. <sup>[46]</sup> According to the 2016 community survey, 19.9% of households had run out of money to buy food in the previous 12 months. <sup>[49]</sup> Mkhawani <i>et al.</i> <sup>[50]</sup> reported that the rising food prices resulted in 77% of households in the Mopani District running short of food before the end of the month. One other study in a low-income setting confirmed high levels of food insecurity in children. <sup>[51]</sup> Since the factors contributing to food insecurity appear to be worsening (or at least not improving), the grade has been downgraded to a D-.
Advertising and media	D-	Draft regulations (R429 of May 2014) relating to the marketing of food and beverages to children have still not been passed by government. <sup>[52]</sup> Wiles <sup>[53]</sup> reported that 71.4% of children's cereals are not eligible to make nutrient claims, but 85.7% had a claim on the package. The influence of marketing on children's preference of cereal is of great concern, and current legislation does not address this. Although there are some promising industry initiatives, such as the removal of sweets and chocolates from checkout points, <sup>[54]</sup> and providing free fruit to children in some food stores, <sup>[55]</sup> the reach of these initiatives is limited. The grade has been downgraded to a D- owing to the lack of adequate action by government and industry.

HAKSA = Healthy Active Kids South Africa; NSNP = National School Nutrition Programme; SSB = sugar-sweetened beverage; ISCOLE = International Study of Childhood Obesity, Lifestyle and the Environment.

HAKSA 2018 Report Card. The only indicators that seem positive are early childhood PA and gross motor proficiency (specifically in preschool-aged children), although further research is required to establish whether these levels are maintained as preschool-aged children transition into formal schooling. Furthermore, since a grade

was not previously included for these early childhood indicators, it is not possible to state that this is an improvement. All indicators would benefit from additional research, and particularly research that is able to provide a national perspective, considering the heterogeneity that was identified for some indicators, particularly across different

**Table 5. HAKSA 20 Body composition grades and rationale**

Body composition indicator	Grade	Rationale
Overweight and obesity	D	The SADHS reported that 16.1% of girls and 6.1% of boys aged 15 - 19 years old were overweight. <sup>[56]</sup> Obesity prevalence in 15 - 19-year olds was 10.9% in girls and 2.5% in boys (although using adult BMI cut-offs). <sup>[56]</sup> The NIDS reports a rapid rise in mean BMI in 6 - 25-year-olds, with the highest risk in children aged 8 - 10 years old. <sup>[57]</sup> In this study, a higher mean BMI was observed most prominently in 8 - 10-year-old girls living in middle- to high-income households in urban formal areas, and in low-income households in urban informal settlements. <sup>[57]</sup> In a rural KZN study, age and sex (female) were consistently associated with increasing risk of overweight and over-fatness (>85th centile body fatness). <sup>[58]</sup> There is significant geographic heterogeneity in overweight/obesity prevalence, and sex differences (although not consistent over age groups) continue to exist. <sup>[56,57]</sup> Higher adiposity has been associated with poor blood pressure and cardiovascular fitness measures. <sup>[59]</sup> Since the high prevalence of overweight/obesity persists, the grade remains a D.
Undernutrition	C	Based on regional studies, undernutrition remains a problem in both rural and urban areas. <sup>[56,60-62]</sup> No recent national data on indicators of undernutrition (stunting, wasting, underweight) are available for the 5 - 15-year-old age group. There continue to be sex differences in the prevalence of undernutrition indicators at a regional level; however, these are not consistent across studies. <sup>[56,61,62]</sup> Socioeconomic status is inversely associated with stunting, <sup>[56]</sup> while height-for-age is significantly associated with cognition in 6 - 8 year olds from KZN. <sup>[63]</sup> As undernutrition still exists in children and adolescents, the grade remains a C.
Early childhood body composition	D	The SADHS (using WHO cut-offs) <sup>[64]</sup> reported a prevalence of overweight of 9.1% among 3 - 5-year-old children. The prevalence of stunting in this age group was particularly high (21.5% stunted, 5.3% severely stunted), although the prevalence of wasting was low (3.0%). <sup>[56]</sup> One study conducted across income settings (using IOTF cut-offs) <sup>[65]</sup> reported a 19.0% prevalence of thinness (defined as a low BMI-for-age) and 8.9% prevalence of overweight/obesity in preschool-aged children, with urban low-income children faring the worst with respect to overweight/obesity (16.5% v. <5% in other settings). <sup>[23]</sup> In the absence of improvements, the grade remains a D.

HAKSA = Healthy Active Kids South Africa; SADHS = SA Demographic and Health Survey; NIDS = National Income Dynamics Study; BMI = body mass index; KZN = KwaZulu-Natal Province; WHO = World Health Organization; IOTF = International Obesity Task Force.

**Table 6. Comparison of 2014, 2016 and 2018 HAKSA Report Card grades**

Indicator	2014	2016	2018
Physical activity			
Overall physical activity	D	C	C
Early childhood physical activity	-	INC	A-
Organised sport participation	C	D	D
Active play	INC	INC	INC
Active transportation	C	C	C
Sedentary behaviours	F	F	F
Early childhood sedentary behaviour	-	-	INC
Physical fitness	-	D	INC
Family and peer support	INC	C-	C-
School	D	D	D-
Community and environment	D-	C-	C-
Government	B	B	C
Nutrition			
Fruit and vegetable intake	C	D	D
Snacking, SSBs, dietary sodium	F	F	F
Fast food intake	-	F	
School nutrition culture and environment			D-
School tuck shop	D-	INC	-
Vegetable gardens	-	C	-
NSNP	B	B	C
Food security	-	D	D-
Advertising and media	D	D	D-
Body composition			
Overweight/obesity	D	D	D
Undernutrition	C	C	C
Early childhood body composition	-	D	D

HAKSA = Healthy Active Kids South Africa; SSB = sugar-sweetened beverage; NSNP = National School Nutrition Programme; INC = inconclusive.

income settings. There are challenges in measuring and reporting on the prevalence of certain behaviours and activities, e.g. active play, organised sports participation and PA at school. It was also challenging to obtain accurate data on SA children and adolescents' online exposure to food and beverage marketing, specifically SSBs and fast food. As electronic media become increasingly accessible to this age group in SA, along with increased uptake and use of social media and the global shift towards digital forms of marketing, it is more important than ever to track this exposure and its potential impact on behaviour.

Despite the absence of new evidence of improvements or declines in any of the PA, nutrition and body composition indicators between 2016 and 2018, certain indicators have been downgraded (as described in Tables 3 and 4) since the 2016 Report Card. These include PA indicators for school and government, and nutrition indicators for the NSNP, food security and advertising and media. The purpose of downgrading these indicators was to highlight the lack of progress in these areas, in the hope that relevant stakeholders and industry would take necessary action. In particular, the development and implementation of policies on PA and nutrition in the school environment, and on advertising and media relating to unhealthy eating, are needed. The food insecurity indicator was also downgraded, to highlight the lack of sufficient effort to improve access to food of adequate quality for those living in the poorest of circumstances in SA. For children and adolescents specifically, failure to act could have significant consequences for cognitive development and academic outcomes.<sup>[7]</sup> The worsening of food insecurity is particularly concerning in light of the growth of the fast food industry and increases in SSB sales.

The HAKSA 2018 Report Card findings highlight a number of key priorities that require action. Firstly, safety remains a concern for SA children and adolescents, particularly in low-income communities: it was raised as an issue for three of the PA indicators: 'active play', 'active transportation' and 'community and environment'. There is an apparent lack of a systematic approach to deal with this issue. While further research is required to fully understand the nature of

the impact of safety concerns on children's PA and play, children's safety and vulnerability should be a priority on a far broader agenda than this.

Secondly, there remains a significant gap between policy and implementation, particularly with regard to the school environment and government strategies to promote PA and healthy nutrition among children and adolescents. It appears that there is little accountability for lack of implementation, and that what has been implemented has not been rigorously evaluated.

Thirdly, the double burden of under- and over-nutrition persists among SA children and adolescents. Overweight/obesity continues to be high (especially among girls), despite the presence of food insecurity, which again highlights the need for better access to food of good quality, rather than merely food of high caloric content. However, this will remain challenging as the fast food industry grows, and if the sale of SSBs continues to rise. Furthermore, it is essential to consider the broader food environment and the food and beverage industry as a whole, and the impact that these may have on the nutrition and body composition of SA children and adolescents. The competitive nature of multinational food companies, their rapid penetration of markets in low- and middle-income countries and their targeting of children and parents in an effort to develop taste preferences early in life warrant consideration.<sup>[66]</sup> There is a broader need in SA to address food environments, and how these can be adapted to support children and adolescents to make healthy food choices, in order to improve overall child health and support growth.<sup>[67]</sup>

In terms of limitations of the present review article, certain data that have been included should be interpreted with caution. These include self-report PA data, which are likely to be less reliable than objective measures. They also include the body composition data presented by the SA Demographic and Health Survey (SADHS)<sup>[66]</sup> for adolescents, which used adult BMI cut-offs. Furthermore, the early childhood body composition data from the SADHS present much lower levels of overweight (9.1%) than the SA National Health and Nutrition Examination Survey (SANHANES; 18.2%),<sup>[68]</sup> which used International Obesity Task Force cut-offs,<sup>[65]</sup> for this age group. In addition, owing to limited prevalence data, conclusions have mostly been drawn based on smaller, regional studies.

## Conclusion

The HAKSA 2018 Report Card provides an evidence-based call to action for all those with a vested interest in the health, development and wellbeing of SA children and adolescents. With the rising prevalence of overweight/obesity and non-communicable diseases in SA adults,<sup>[56]</sup> the need to establish healthy lifestyle behaviours and promote environments that support healthy choices among children and adolescents is more important than ever. A healthier generation of young South Africans could contribute to the progress and development of our country.

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