

Results from Botswana's 2018 Report Card on Physical Activity for Children and Youth

Dawn M. Tladi, Malebogo Monnaatsie, Sheila Shaibu, Gaonyadiwe Sinombe, Gaonyadiwe G. Mokone, Lesego Gabaitiri, Leapetswe Malete, and Hubona Omphile

Introduction

Physical inactivity is now the fourth leading risk factor of mortality globally.¹ However, very little is known about physical activity (PA) among school-aged Botswana children. Physical education (PE) in Botswana public schools is offered as an optional subject² and thus many children and youth do not get much PA opportunity through PE. Also, only a handful of private schools in Botswana includes mandatory PE in their curricula. There is a glaring absence of data on the amount of moderate-to vigorous-intensity PA (MVPA; ≥ 60 minutes/day) among children and youth in Botswana. This absence of data is a concern given that MVPA is associated with health. The purpose of this paper was to summarize the results of the 2018 Botswana's Report Card (Figure 1). Grades were based on the best available evidence. Sources included both peer-reviewed literature and gray literature such as government and nongovernment reports.

Methods

A panel of 8 academic scholars from a wide array of disciplines interested in or involved with the children and youth's PA patterns research in Botswana was formed. The panel set out to search the literature from several research databases such as PubMed, Africa Journals Online, and Africa Wide (EBSCOhost) to inform the 10 core PA indicators that are common to the Global Matrix 3.0. These indicators include Overall PA, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behaviors, Physical Fitness, Family and Peers, School, Community and Environment, and Government. Data synthesized was mainly from published peer-reviewed articles, grey literature, the information from the relevant websites of stakeholders, policy reports from the World Health Organization, Botswana's Ministry of Youth, Sport and Culture and Ministry of Health and Wellness. Expert and subjective information from the panel members was also used to produce the Botswana's 2018 Report Card.

Results and Discussion

Botswana's 2018 Report Card has revealed the dire paucity of data on children's PA in the country, as seen in Table 1. The

Overall PA, Organised Sport Participation, Physical Fitness, and Family and Peers indicators have been given an incomplete (INC) due to insufficient data on these indicators. More research is needed on these indicators to grade them appropriately. This is important given that a limited number of available data on the PA of Botswana children is outdated⁵ while more evidence is available on the PA of adults.⁶ With the limited data, a grade C- was assigned for the School indicator and a grade D- was assigned for Active Play which both data were derived from expert opinion and subjective observation. The Active Transportation and Sedentary Behaviors grades were based on one study by Guthold et al⁷ which can only provide preliminary results. As for Physical Fitness, a couple of outdated studies provided information on muscular strength^{5,8}; however, no data is available on other aspects of Physical Fitness except for one study⁷ which reports overweight/obesity of Botswana children at 20%. There is a clear indication of data paucity in PA and its influencing indicators among Botswana school-aged children and youth. Although some of the indicators were graded with the available data, further research is needed to effectively grade all 10 common indicators.

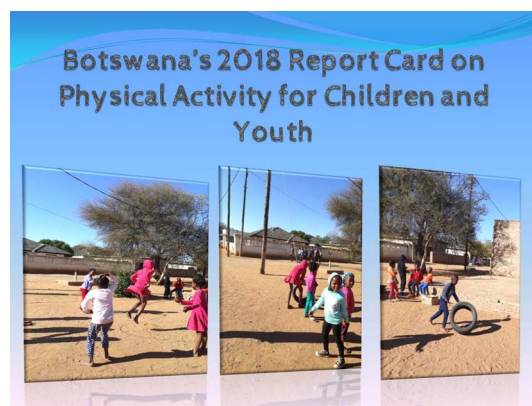


Figure 1 — Botswana's 2018 Report Card cover.

Tladi, Monnaatsie and Hubona are with the Department of Physical Education, Health and Recreation, University of Botswana; Shaibu and Sinombe are with the School of Nursing, University of Botswana; Mokone is with the Department of Biomedical Sciences, University of Botswana; Gabaitiri is with the Department of Statistics, University of Botswana and Malete is with the Department of Kinesiology, Michigan State University. Tladi (dawn.tladi@mopipi.ub.bw) is corresponding author.

Table 1 Grades and rationales for Botswana's 2018 Report Card

Indicator	Grade	Rationale
Overall Physical Activity	INC	11.7% of the 13-15 year olds were reported to be physically active for at least 60 min per day (GSHS, 2005). ³ However, this indicator cannot be graded as the literature is quite old and no recent documentation of the current status exists among the children and youth age group. The Report Card team will embark on a comprehensive national survey on the physical activity and physical fitness of the school-aged children and youth in July 2018.
Organized Sport Participation	INC	There is insufficient data to accurately grade this indicator. Participation in organized sport in all Botswana schools is evidenced by the annual BOPSSA and BISA competitions. Evidence also exists in that out of school sport development programs are being run by the BNSC which involve in and out of school sports for children and youth. However, this indicator cannot be graded due to lack of documentation on the actual numbers of children involved in these nationwide activities.
Active Play	D-	This indicator was graded based on expert opinion. Approximately 20% of the children play actively, mostly children living in rural areas. No empirical evidence is available that addresses active play, let alone the specifics of active play (e.g., frequency, duration, type).
Active Transportation	C	49% of 13-15 year olds show that they engage in active modes of transport. ⁴ Most children walk to school, especially those living in rural areas. It has been the government's priority to minimize the distance that children walk to get to schools, by recognizing the fact that transport costs are not affordable for many Botswanan children and youth.
Sedentary Behaviours	B-	34.5% of 13-15 year olds spend 3 hours or more per day sitting. ⁴ This data also suggests that approximately 64.5% of 13-15 year olds (same age group?) sit for less than 3 hours. No study addresses the screen time data but the amount of time spent sitting or engaging in sedentary activities.
Physical Fitness	INC	There is insufficient data to accurately grade this indicator.
Family and Peers	INC	There is insufficient data to accurately grade this indicator. Though the STEPS survey of 2014 revealed that 57.3% of adults are not engaging in vigorous-intensity physical activity.
School-infrastructure, policies and programs	C-	Physical education (PE) is offered in all junior and secondary schools as an optional subject which approximately 33% of 13-17 year olds take part in. PE is taught by trained PE teachers and offered to all students in private schools while it is optional in governmental or public schools. There are 1,138 schools (primary and secondary) in Botswana, of which 99% of schools are private (1/10 of all schools). There is no data on school facilities and equipment that support physical activity in schools. However, this indicator is graded based on the expert opinion that most private schools provide good facilities and equipment that support the teaching of PE.
Community and Environment	INC	There is insufficient data to accurately grade this indicator. Lack of community sport facilities and equipment hinder participation in physical activity. Playgrounds/parks have mushroomed in recent years especially in urban cities though there is no document to support such change. Involvement of non-government organizations and companies provided funding for sport development among children and youth. These observations are largely anecdotal, therefore insufficient to grade accurately.
Government	C	The 2011 National Health Policy advocates for physical activity promotion, particularly in young people. The 2010 National Youth Policy strategy advocates for the improvement and access to recreation, sport and creative arts programmes and facilities. There is no documentation of implementation and evaluation of these policies, to measure the level of their success or failure. Funding is made available to all schools for sports activities, including PE and both BISA and BOPSSA are fully funded by the government.

Abbreviations: BISA, Botswana Integrated Sports Associations; BNSC, Botswana National Sports Commission; BOPSSA, Botswana Primary School Sport Association; GSHS, Global School-based Student Health Survey.

Conclusion

Botswana's 2018 Report Card was derived from the literature obtained and expert opinion which could be biased and misleading. There is a great need for developing a comprehensive national survey on the PA of school-aged children and Youth in Botswana. Regardless, Botswana's 2018 Report Card will provide an informed guidance to policy makers and direction to interventions in order to improve PA among Botswana children and youth.

References

1. World Health Organization. *Global Recommendations on Physical Activity for Health*. Geneva, Switzerland: WHO; 2010.
2. Onyewadume IU, Onyewadume M, Tladi DM, Dhaliwal H. Children's physical activity survey in major Botswana towns and cities: Implications for child development. In *UNICEF Thari ya Bana - Reflections on Children in Botswana*; 2012.
3. World Health Organization. *Global School-based Student Health Survey*. Botswana, Southern Africa: WHO; 2005.
4. Guthold R, Cowan MJ, Autenrieth CS, Kann L, Riley LM. Physical activity and sedentary behavior among schoolchildren: a 34-country comparison. *J Pediatr*. 2010;157(1):43-49.e1. doi:10.1016/j.jpeds.2010.01.019
5. World Health Organization. *Botswana Non-Communicable Diseases Risk Factor Surveillance*. Botswana, Southern Africa: WHO; 2014.
6. Corlett JT. Strength development of Tswana children. *Hum Biol*. 1988;60(4):569-577.