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BRIEF REPORT

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

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Introduction

Chile's first Report Card (RC) on Physical Activity for Children and Youth released in 2016 graded with an F overall physical activity (PA), as only 3 out of 10 children and 2 out of 10 youth performed at least 60 minutes of moderate-to vigorous-intensity PA per day.[1] Most indicators received very low grades, except for Community and Environment, and Government Strategies and Investments. In the present study, we aimed to summarize the results of the Chile's second RC for 13 PA-related indicators.

Methods

The 2018 Chile's RC (Figure 1) included the 10 core PA indicators that are common to the Global Matrix 3.0: Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behaviors, Physical Fitness, Family and Peers, School, Community and Environment, and Government. Additionally, we have included 3 additional indicators: Sleep, Inclusion, and Overweight and obesity. Each of these 13 indicators contributes to one of these three categories: a) Behaviors that contribute to overall PA levels, b) Factors associated with cardiometabolic risk, and c) Factors that influence PA.

The 2018 Chile's RC was developed by a Scientific (SC) and an Advisory committees (AC) consisting of academics and civil servants from all areas represented in the current RC. Members of the SC performed a systematic search of the literature and available data sources, while the AC facilitated access to relevant national surveys that may have included some of the indicators of the RC and provided feedback on the grades.

The 2018 Chile's RC summarized data from the different sources to inform the 13 indicator grades based on a standardised grading system (grades ranged from A to F) agreed by the Active Healthy Kids Global Alliance. The data sources included nationally representative surveys, published scientific articles and official technical reports available or released from 2016.

Results and Discussion

Overall PA was graded with a D-, given that 20.2% of children and youth (9-18 years old) meet the PA guidelines. In line with the 2016 RC, the highest grades were observed for two of the factors that externally influence PA: Community and environment (B) and Government Strategies and Investments (B-) (Table 1). By contrast, individual behaviors scored grades ranging from F (Active Transportation) to C- (Sedentary Behaviors). Moreover, in 3 out of 13 indicators we assigned an INCOMPLETE (Active Play, Sleep and Inclusion) as there were not enough data.

The strengths of our analysis include the use of a variety of large, nationally representative data sources and ad-hoc analysis of existing datasets. However, it is noteworthy to mention that data

Figure 1 — Chile's 2018 Report Card cover.

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

Indicator	Grade	Rationale
Overall Physical Activity	D-	On average, 20.2% of children and adolescents (weighted average) meet the PA guidelines.[2–4] 27.4% of children (9 to 11 years old) and 18.9% of adolescents meet the PA guidelines based on National data.[2–4] There is lack of information in 5 to 8 years old.
Organized Sport Participation	D-	Participation ranged from 14.4% to 26.3% among 5 to 17 year-olds.[2,5] Very large gender differences across all age groups were observed, especially between younger and older ages.[2]
Active Play	INC	Lack of data to provide a grade for this indicator.
Active Transportation	F	The weighted average prevalence of active transportation to and from school was 15% (10% for children and 20.0% for adolescents) based on representative data from different cities and regions.[6–9]
Sedentary Behaviors	C-	Prevalence of >=2h screen time per day ranged from 45% to 69% in adolescents. Data were extracted from self-report only and represented two large central regions.[10,11]
Physical Fitness	D	Based on 20-m shuttle run, girls achieved percentile 33 and boys percentile 44. However, results are limited for 13 to 15 year-olds.[12]
Family and Peers	F	12.5% of families reported the participation in sporting clubs.[5] 86.7% of adults do not engage in leisure PA for 30 minutes for 3 or more times per week.[13]
School Environment	D	12.8% to 33.0% of adolescents reported the participation in physical education for 3 or more days per week without gender differences.[3,4]26.0% of students reported that they have positive reinforcement from teachers for being physically active.[14]
Community and Environment	B	39.0 to 55.0% of adolescents reported good/very good availability of parks, green spaces, cycling infrastructure or sporting facilities.[6] About 75% of children and adolescents reported having a public space for recreation nearby.[5] Information was obtained at a national level mostly from adolescents.
Government	B-	Chile has a new PA national policy involving three ministries in the design (Sports, Education, and Health).[15] It has implemented a strategic plan with goals and funding in key areas including physical activity. However, there is poor dissemination and translation to stakeholders. Assessment plan yet to be implemented at a national level.

Abbreviations: INC, incomplete; PA, physical activity.

were obtained from self-reported measurements, which are subject to bias. In addition, most sources were based on the adolescent population; therefore, children might not be well-represented in our analysis and outcomes must be interpreted with caution.

Conclusion

Overall, Chile's grades remained low compared with the first RC. On the positive side, Chile is advancing in environmental and policy aspects. Attention should be paid to promote active transportation and support families and peers to promote PA. Our findings indicate that the implementation of new strategies should be developed through collaboration between different sectors to maximize effective investments in increasing PA and decreasing sedentary time among children and young people in Chile.

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References

1. Aguilar-Farias N,Cortinez-O'Ryan A, Sadarangani KP, et al. Results from Chile's 2016 report card on physical activity for children and youth. *J Phys Act Health*. 2016;13(11 suppl 2):S117–S123.
2. Ministerio de Desarrollo Social de Chile. *Encuesta de Actividades de Niños, Niñas y Adolescentes 2012 (EANNA 2012)*. 2013.
3. Aguilar-Farias N, Martino-Fuentealba P, Carcamo-Oyarzun J, et al. A regional vision of physical activity, sedentary behaviour and physical education in adolescents from Latin America and the Caribbean: results from 26 countries. *Int J Epidemiol*. 2018;47(3):976–986.
4. Organisation for Economic Co-operation and Development. *PISA 2015 Results (Volume III): Students' Well-Being*. 2017.
5. Junta Nacional de Auxilio Escolar y Becas (JUNAEB). *Encuesta de Vulnerabilidad 2017 (EV 2017)*. 2018.
6. Ministerio de Salud de Chile. *Encuesta Nacional de Calidad de Vida 2015-2016 (ENCAVI)*. 2017.
7. Ministerio de Vivienda y Urbanismo. *Encuesta de Percepción de Calidad de Vida Urbana (EPCVU 2015)*. 2016.
8. Garcia-Hermoso A, Saavedra JM, Olloquequi J, Ramirez-Velez R. Associations between the duration of active commuting to school and academic achievement in rural Chilean adolescents. *Environ Health Prev Med*. 2017;22(1):31.
9. Rodriguez-Rodriguez F, Cristi-Montero C, Celis-Morales C, Escobar-Gomez D, Chillon P. Impact of distance on mode of active commuting in chilean children and adolescents. *Int J Environ Res Public Health*. 2017;14(11):pii:E1334.
10. Barja Yanez S, Arnaiz Gomez P, Villarroel Del Pino L, et al. [Dyslipidemias in school-age chilean children: prevalence and associated factors]. *Nutr Hosp*. 2015;31(5):2079–2087.
11. Garcia-Hermoso A, Marina R. Relationship of weight status, physical activity and screen time with academic achievement in adolescents. *Obes Res Clin Pract*. 2017;11(1):44–50.
12. Agencia de Calidad de la Educación. *Estudio Nacional de Educación Física 2015 (ENEF)*. 2016.
13. Ministerio de Salud de Chile. *Encuesta Nacional de Salud (ENS) 2016-2017*. 2018.
14. Olivares PR, Cossio-Bolaños MA, Gomez-Campos R, Almonacid-Fierro A, Garcia-Rubio J. Influence of parents and physical education teachers in adolescent physical activity. *Int J Clin Health Psychol*. 2015;15(2):113–120.
15. Ministerio del Deporte GdC. *Politica Nacional de Actividad Física y Deporte 2016-2025*. 2016.