Shawnda A. Morrison, Gregor Jurak, Gregor Starc, Marjeta Kovač, Kaja Meh, Mojca Golobič, Poljanka Pavletič Samardžija, Mojca Gabrijelčič, Marko Primožič, Primož Kotnik and Vedrana Sember

The Republic of Slovenia's Report Card for Physical Activity for Children and Youth 2021

Overall Physical Activity A

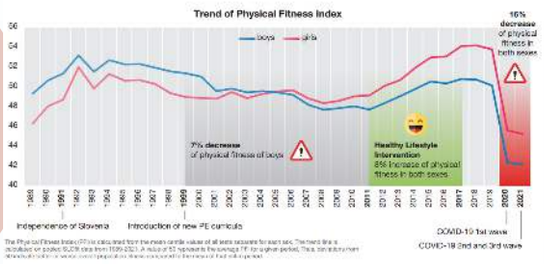
In Slovenia, 97% of boys and 95% girls ages 6 to 11 years were meeting WHO recommendations for daily PA. These data were backed up by objectively measured data from a sample of 11-year-olds from Ljubljana, which confirmed that almost all children met WHO recommendations. Combining the data, we found that in younger (age 6–11 y) and older children (12–18 y), 86% of boys and 76% of girls met PA guidelines, and we gave an overall rating of (A-) for this indicator. Revisiting the ACDSi dataset in 2018, we reported in that Report Card that over 80% of children between 6 to 19 are meeting WHO PA guidelines according to self-reported data from that study, but objectively assessed PA showed that the 60 minutes of daily MVPA needed is achieved by 88% of 11-year-olds, whereas this proportion drops to 66% in 14-year-olds. We again gave an overall rating of (A-) for this indicator. From 2018-2020, as part of an ongoing European project (EUPASMOS), Premelc et al (2022) reported in a sub-sample (N=108, N=48 boys, 11-14-yearolds) with objectively measured data (UKKRM 42 accelerometers), that 25% of children were meeting the previous WHO recommendations for achieving at least 60 min MVPA every day, when using the current guidelines of attaining 60 min MVPA on a weekly average.

Sleep D-

Sleep was included as an indicator for the first time in the 2018 Report Card. The data were retrieved from self-reported questions from the ACDSi database, which found that less than 40% of children between 11 and 18 years were meeting sleep recommendations during school days, but on weekends, 77% of boys and 87% of girls did meet recommendations. There is 2018 data from the ongoing HBSC study which found that in students 11, 13, 15, and 17-years-old, just over a fifth (22.1%) of adolescents sleep nine hours or more per night during the school week in accordance with sleep recommendations (D-).

Physical Fitness A

Slovenia is pioneer is systematic PF collection (SLOfit system). Every April for more than 35 years almost entire Slovenian youth, aged 6-18 years, are measured with 11 PF tests. Moreover, Slovenia is measuring PF, PA, and other variables connected to PA of children and youth every 10 years from 1970 on (ACDSi). Slovenian cardiorespiratory fitness (CRF) is universally high, where boys and girls of all ages meet or exceed international health risk cut-offs (Morrison et al 2021, A+). Even children from the 'worst' 2003 generation met the criteria for lowest health risk (Ruiz et al, 2016), with the most recent generation of girls meeting boys' CRF standards 80-100% of the time (ages 8 – 14 years, A/A+). When comparing centile values for all children (6-19 y) standing long jump scores from the FitBack data portal, we find that 81.8% of all Slovenian children meet the health zone cut-offs of the Tomkinson paper (A-). We present PF index data for the entire history of SLOfit testing, beginning in 1989 (Figure 2). Negative secular trends in PF are apparent from 1999 to 2011, which prompted a national PA intervention program called "Healthy Lifestyle" (see: 2018 Report Card for details).



Government D

Unfortunately, the Slovenian Government response to the global pandemic in terms of policy decisions related to providing PA opportunities, allocated funds and resources, and progress through decision making processes, was disastrous for child PA overall. Despite aggressive campaigns to maintain PA at home, the country experienced tremendous decreases in child fitness (see: Fitness Indicator), prompting researchers to create a method to track and communicate government decisions with direct impact on child PA, fitness, and overall health to the public (i.e., the SLOfit Barometer, Jurak et al, 2020). Moreover, leisure sport programmes for children and youth received 38% less money in 2021 in comparison to 2020. Also, funding for competitive sport of children and youth went down by 13%. At the same time, the Ministry failed to assure the continuation of the highly successful Healthy Lifestyle project after the year 2018.

Organized Sport and Physical Activity C

Participation estimates for 2018-2019 indicate 17.3-18.2% of 6-14-year olds are enrolled, and this proportion decreased in the 2020-2021 timeframe to 11.2 to 16.7% (F, data based on total number of school children enrolled at school and total number of children enrolled in sport clubs nationwide). Previous data collected from the ACDSi study (2013/2014) found that 60% of boys and 47% of girls aged 6-19 reported being engaged in extracurricular sport practice or clubs at some point that year (C+).

Sedentary Behaviours C+

More recently, Kovacs and colleagues (2020) reported that 48.7% (C) of Slovenian children sampled (N= 1,897; 802 boys) were meeting the 2-hours or less screen time recommendations on weekdays in 2020. This rose to 55.8% (C+) for weekends (data was collected May 2020, when weather was better, and schools were re- opening). This reversal of typical weekday/ weekend trends were later confirmed in a small, repeated-measures study on N=62 school children the majority of whom were sampled from a very physically fit region of Slovenia (Žiri); researchers found that although MVPA decreased by ~46 minutes per day,

Schools A-

Slovenian schools have a well-developed tradition of providing universal, quality PE to children across the country. For example, we already reported that although the exact percentage of PE classes taught by a PE specialist varies from grade to grade in early elementary school, by grades 4 to 5, 50% of educators teaching PE are specialists, and from grade 6 through secondary school, 100% of PE classes are taught by PE teachers with a university degree, as decreed by law. Regarding infrastructure, every primary school and secondary school must have at least one sports hall (most have 2) which is fully equipped with all the necessary sports equipment, including additional outdoor facilities for the children. All schools in Slovenia have written, public, PA policies. The benchmarks above also refer to policies enacted by law in Slovenia.

Community and Environment A+

All municipalities in Slovenia must produce policies promoting PA and publish annual reports on this data, including detailed infrastructure plans. All communities must have open sport facilities, programs, and playgrounds available for public use. All municipalities in Slovenia are legally obliged to provide co-funding and cooperate with local sports organizations, although the share of public funding contributed to competitive sport and sport for all varies from one municipality to the other.

Active Transportation C

Data for this indicator rely heavily on older data from the ACDSi study, or surveys conducted via sub-contracting for a given government agency or reporting from ongoing initiatives. We are succeeding with about half of the children, 47%-53%).

Active Play C

In 2020, remarkably, novel data surveyed during the height of the first lockdown (Feb–May 2020) found that 56% of children played outdoors more than 2 hours per day (Kovacs et al, 2021), and child PA patterns were reversed, such that levels of MVPA were reported to be higher on weekends than weekdays (Morrison et al, 2021, Meh et al, 2021).

Family and Peers B+

Quality evidence remains scarce for this benchmark in Slovenia. One recently published study, performed in autumn 2018 (October to November), was conducted to investigate whether family PA habits affect their children's PA (Zovko et al, 2021). The sample included N=174 children (77 boys, 97 girls, 11-14 y.) and their families (N=225 parents, N=52 grandparents) who wore accelerometers continuously for one week to determine PA levels of children, parents, and grandparents. The authors report that mothers' MVPA was associated with their child's MVPA,

Seasonal Variations D+

Anecdotal evidence comparing data from the ACDSi study (sampled in September) and the SLOfit database (sampled annually in April) suggests fitness trends in children are negatively affected by summer holidays. Volmut and colleagues (2021) compared accelerometer-based PA patterns in different seasond with a 1-year follow up. During summer holidays overall PA decreased by 18% ($p < 0.001$), physical inactivity increased by 5.5% ($p < 0.001$), moderate PA decreased by 53% ($p < 0.001$) and moderate to vigorous PA decreased by 45% ($p < 0.001$) when compared to before summer holidays. More recently, a pilot study by Ravanelli and colleagues (2021) was conducted which evaluated 24-hour movement behaviour, thermal perception and thirst in children and adults on days when a local heat alert was broadcast. On heat alert days (maximum ambient temperature: 30.2±1.5°C [Range: 28.7°C – 33.54°C]), children engaged in significantly more moderate (children: 107±90 mins, adults: 56±53 min) and vigorous (children: 62±46 min, adults: 19±33 min) PA compared to adults and spent less time engaging in sedentary activities (children: 40±98 min, adults: 113±138 min).

Morrison, Jurak, Starc, Kovač, Meh and Sember are from University of Ljubljana, Faculty of Sports, Ljubljana, Slovenia; Pavletič Samardžija is from Olympic Committee, Ljubljana, Slovenia ;; Golobič is from University of Ljubljana, Biotechnical Faculty, Ljubljana, Slovenia ; Primožič is headmaster; from Primary School Ivana Groharja, Škofja Loka ; Kotnik is from University Clinical Centre from Ljubljana, Slovenia