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THE 2016 BELGIUM REPORT CARD ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

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This long form Report Card provides more details on the selection of the data sources, the grading process, and references used for the short form Report Card. Both the short and long form of The 2016 Active Healthy Kids Belgium Report Card can be found on www.activehealthykids.org.

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Authors
Anne I. Wijtzes (KU Leuven), Maïté Verloigne (Ghent University),
Alexandre Mouton (University of Liege), Marc Cloes (University of Liege),
Karen A.A. De Ridder (WIV-ISP), Greet Cardon (Ghent University),
Jan Seghers (KU Leuven)

ABOUT THE 2016 ACTIVE HEALTHY KIDS BELGIUM REPORT CARD ON PHYSICAL ACTIVITY FOR CHILDREN AND YOUTH

In 2014, the Active Healthy Kids Global Alliance was established with the aim of advancing physical activity among children and youth from around the word [1]. One of the initiatives of this network of researchers, health professionals, and stakeholders is to promote the production of national Report Cards that present up-to-date information on overall physical activity levels, physical activity behaviors, and influences thereon, of children and youth worldwide through a harmonized development process and a standardized grading framework (from "A" = excellent to "F" = failing) formulated by Active Healthy Kids Canada [2]. The Report Cards have been used in many countries to inform policy makers and stakeholders and enables global comparisons.

This is the first Belgium Report Card on physical activity for children and youth. The Report Card was presented at the International Conference on Physical Activity and Public Health in Bangkok, Thailand on November 16, 2016. The purpose of the Report Card is to advance knowledge on the current 'state of the nation' regarding physical activity levels of Belgian children and youth, identify gaps in current knowledge (research), and act as an advocacy tool to influence researchers and stakeholders who are able to positively influence physical activity opportunities for children and youth. The Report Card comes in both a short form, intended to be accessible to a wide audience, and a long form, aimed at more specialist audiences and presenting more detailed information on the data sources considered, the grading process, references, and caveats associated with each of the indicators. Both Report Cards are available in English, French, and Dutch in a way to disseminate the results at national and international levels.

METHODS

Overall process

A research working group (RWG) was established consisting of six researchers affiliated to the KU Leuven, Ghent University, and the University of Liege, covering both Flanders (i.e. the Flemish speaking northern part of Belgium) and Wallonia (i.e. the French speaking southern part of Belgium). With the support of Scientific Institute of Public Health (WIV-ISP), the project leading investigator and project manager prepared a synthesis of the data recently collected in the Food Consumption Survey (FCS), the main data source for this manuscript (see below for more information). Subsequently, the RWG was responsible for the selection of indicators, identification of additional relevant data sources, synthesis of data, and assignment of grades to each of the selected indicators. Two separate stakeholder groups were formed, one for Flanders and one for Wallonia, consisting of experts from research, education, public health policy, and practice in the field of physical activity, sport, sedentary behavior, and dietary behavior. Members of the RWG prepared preliminary grades, which were subsequently discussed in separate meetings with the stakeholders group for Flanders and the stakeholders group for Wallonia. Grades for each of the indicators were finalized after consensus was reached among the RWG in a joint meeting and were endorsed by both stakeholder groups.

Indicators and grades

Similar to all other report cards, and in accordance with Active Healthy Kids Canada, grades were assigned to 11 indicators, including nine core indicators (overall physical activity; organized sport participation; active play; active transportation; sedentary behaviors; family and peers; school; community and the built environment; government strategies and investments) and two additional indicators (dietary behaviors; weight status). These indicators were categorized into two groups: 1) physical activity, related health behaviors, and health outcomes, and 2) influences on physical activity and health outcomes.

Grades were allocated to these indicators using a standardized grading framework formulated by Active Healthy Kids Canada (A = 81%–100%; B = 61%–80%; C = 41%–60%; D = 21%–40%; F = 0%–20%; INC [incomplete]= not enough valid/representative data available for grading) (Table 1) [2]. For each of the 11 indicators, sub indicators for different age groups were graded according to this framework and an overall grade was established based on consensus among members of the RWG and endorsement from the stakeholder groups. In addition to an overall grade, an indicator could be assigned a minus sign ('-') or plus sign ('+') based on the presence or absence, respectively, of substantial inequalities (i.e. ≥5% difference) according to age, region (Flanders vs. Wallonia), gender, or socioeconomic status (SES) as indicated by parental educational level. In case previous research was available, a minus sign or plus sign could also be added to the grade based on the presence of a negative or positive trend, respectively.

Data sources

The main data source selected for this first Report Card is the Belgian Food Consumption Survey (FCS) 2014-2015 conducted by the Scientific Institute of Public Health (WIV-ISP) [3,4]. The FCS is a cross-sectional study among a representative sample of the Belgian population aged 3 to 64 years (n=488 for 3- to 5-year-old children, n=575 for 6- to 9-year-old children, and n=964 for 10- to 17-year-old adolescents), randomly selected from the national population register following a multistage stratified sampling procedure. Results of the FCS are weighted according to specific weighing factors to ensure results are representative of the total Belgian population.

Information on physical activity behaviors and dietary behaviors used for this report card was collected by face-to-face computer assisted personal interviews (questionnaires), during which an interviewer asked questions and showed answer categories to the respondent [3]. Respondents' answers were then immediately entered into a computer, thereby decreasing the risk of any mistakes during data collection or data entry. Respondents were free to refuse to answer any question or use the "I don't know" answer category. Respondents were asked to answer the questions themselves. For children, the questions were answered by one of the parents or official caregivers. Physical activity for adolescents was assessed by the Flemish Physical Activity Questionnaire (FPAQ) which has been validated in a sample of 12- to 18-year-old Flemish adolescents [5]. For children, questions from the European ToyBox study were used [6,7].

In addition to these self- (or parent-)reported data, information on overall levels of physical activity were objectively measured by accelerometry, generally considered the 'gold standard' in the assessment of habitual physical activity in children and adolescents [8,9]. For seven consecutive days (including two weekend days), children and adolescents wore a tri-axial accelerometer (GT3X+ Actigraph) on their right hip using an elastic waist belt. Wake up time and bed time were recorded in diaries. Data were included when participants displayed a plausible counts per minute (cpm) (≤15000 cpm), wore the accelerometer for at least 10 hours during weekdays and 8 hours during weekend days, and had valid data for at least two week days and one weekend day [3]. Because of the sporadic and intermittent nature of children's physical activity, short epochs of 15 seconds were used. Physical activity levels were defined using the cut

points proposed by Evenson et al. [10,11], i.e. ≤ 100 cpm for sedentary time, 101-2295 cpm for light physical activity, 2296-4011 cpm for moderate physical activity, and ≥ 4012 cpm for vigorous physical activity.

Anthropometric characteristics such as weight and height were objectively measured by trained interviewers and converted to body mass index (BMI, kg/m2). Weight was measured in lightweight clothes and without shoes with a mechanical personal scale (SECA 815 and 804) and height was measured using a stadiometer (SECA 213). Weight status, i.e. normal weight, overweight, or obesity, was defined according to cut-off values proposed by the International Obesity Task Force [12,13].

In case information was not available from the FCS 2014-2015, alternative data sources were consulted, including the ToyBox study (Flemish preschool children) [7], the Energy study (Flemish adolescents) [14], the Health Behaviour in School-Aged Children Study (HBSC) (Flemish and Walloon adolescents) [15], the 2012 Indicator Survey on health policies and regulations within schools (Flemish primary and secondary schools) [16], and several other regional surveys. In short, parent-reported ToyBox data were derived from the 2012 baseline measurements from the ToyBox intervention and include data on the consumption of sugar sweetened beverages and fruit among 4- to 6-year old preschoolers in Flanders. Similar self-reported data for both Flemish and Walloon adolescents were available in the 2014 HBSC study. Self-reported and parent-reported data from the Energy study (2010 cross-sectional study) were used to assess family and peer influences. An overview of the data sources used for each of the indicators can be found in Table 2.

PHYSICAL ACTIVITY, RELATED HEALTH BEHAVIORS, AND HEALTH OUTCOMES

F+

OVERALL PHYSICAL ACTIVITY

International recommendations on physical activity state that school-aged children (> 5 years) and adolescents should achieve at least 60 minutes of moderate-to-vigorous physical activity on a daily basis [17-20]. For preschool children (≤5 years), the recommendation is at least 180 minutes of physical activity of any intensity (i.e. light-to-vigorous physical activity) on a daily basis [21,22]. Objectively measured data from the FCS demonstrated that only 7% of 6- to 9-year-old children and 2% of 10- to 17-year-old adolescents meet the international recommendations [23]. In contrast, 96% of 3- to 5-year-old children meet the international recommendation for their age group [23]. No remarkable differences according to gender, region, or SES are observed, except for children 6-9 years (boys and low SES children more often meeting the guideline) (Table 3).

Data source

FCS data were used to grade this indicator [3,23]. FCS data are current, likely to be without bias (objectively measured), and representative of children and adolescents in Belgium. Objectively measured data on physical activity levels of Flemish preschoolers

are also available from the ToyBox study [6,7]. Based on data from this source, only 9% (F) of preschoolers meet the current recommendations for preschoolers. The most likely explanation for this discrepancy is the use of different cut-points, i.e. Evenson's cut points (≤ 100 counts per minute [cpm] for sedentary time, 101-2295 cpm for light physical activity, 2296-4011 cpm for moderate physical activity, and ≥ 4012 cpm for vigorous physical activity; validated in children 5-8 years [10,11]) for the FCS and Reilly's cut points (≤1099 cpm for sedentary time, ≥1100 cpm for light- to-vigorous physical activity; validated in children 3-4 years) for the Toy Box study [24].

What does this grade tell us?

The grade for this indicator was based on the physical activity levels of the majority of children and adolescents (i.e. 6-17 year olds). A plus sign was added to this grade to represent the more positive findings for preschool children. Risk of bias for this indicator is small given the use of accelerometers to capture children's physical activity. However, it should be noted that the use of accelerometers comes with many methodological considerations, including (but not limited to) the choice of accelerometer and location of placement of the accelerometer, the minimum required of number of hours and days of monitoring, data cleaning, and cut-point definitions to define physical activity levels [8]. Studies have shown that the use of different cut-points can lead to vastly different results [8,11], and caution should be taken to use valid age-appropriate cut-off values. In general, this indicator shows that only a minority of children and adolescents in Belgium are sufficiently physically active to achieve health benefits. Strategies to increase daily levels of physical activity are therefore highly warranted.

C-

ORGANIZED SPORT PARTICIPATION

There are currently no international recommendations on organized sport participation. Research has shown that participation in organized sport is associated with physical activity of at least moderate intensity, and as such may play an important role in physical activity promotion in children and adolescents [25-27]. Data from the FCS showed that 56% of 3- to 9- year-old children are member of at least one sports club [23]. Of 10- to 17-year-old adolescents, 75% reported that they participate in one or more sports (inside or outside a sports club), and 45% reported that they participate in sports/ physical activities at school outside regular physical education (PE) hours. Organized

sport participation is more common among boys (adolescents), children in Flanders, and among children and adolescents of (mid-)high SES.

Data source

FCS data were used to grade this indicator [3,23].

What does this grade tell us?

The grades for this indicator were uniform across age groups. In addition to the overall grade, a minus sign was allocated based on the presence of regional, gender, and SES differences. Because there is no international recommendation on organized sport participation, benchmarks for this indicator were mostly based on available data (i.e. the proportion of children and youth participating [yes/no] in organized sport in the sport club setting and school setting [adolescents only]). It should be noted that no information on frequency (number of sessions/week), volume (duration/session), or type of sport participation was taken into account. Participation in different sports (e.g. gymnastics versus soccer) has been associated with different levels of MVPA, light PA and sedentary time [27]. Given the potential health benefits associated with youth sport participation, results from this report card indicate a need for the promotion of organized sports for all children and youth, with a special emphasis on girls and children/youth from low socioeconomic groups.

ACTIVE PLAY

C+

There are currently no specific international recommendations on time spent in active play. However, active play is recognized as an important way to be physically active for children in many international guidelines and as such is promoted in children and adolescents [17-19,21]. FCS data showed that 79% and 82% of 3- to 9-year-old children engaged in active outdoor play (examples are rope skipping, cycling) on their last weekday and weekend day, respectively [23]. Children were more likely to play outdoor on weekdays and weekend days in spring (88% and 87%) and summer (90% and 85%) compared to winter (69% and 75%). In contrast, only 26% and 29% of adolescents reported to participate in sports/physical activity as main activity during recess and lunchbreak at school. Active play is more common among boys (adolescents), in Flanders, among children of high SES, and among adolescents of (mid-)low SES.

Data source

FCS data were used to grade this indicator [3,23].

What does this grade tell us?

Because prevalence rates of active play were very different for both age groups (i.e. ranging from 26% for active play during school recess for adolescents to 82% for active outdoor play on weekend days for children), this indicator was graded an 'average' C grade. A plus sign was added to this grade to represent the positive findings for children. Similar to sport participation, benchmarks for this indicator (active play yes/no) were based on available data rather than international recommendations. The observed differences in grades for active play between children and adolescents may represent differences in data collection (e.g. self-report versus parent-report, different items) over and beyond actual differences in active play (see paragraph on data sources in the methods section). Furthermore, school-aged children and adolescents may accumulate time spent in active play in both the home and school setting and as such estimates based on active outdoor play (children; estimates likely to represent home-based outdoor play only) or school active play only (adolescents) may underestimate children and youth's total time spent in active play. Given the potential of active play to contribute to overall physical activity levels, active play should be promoted among children and youth, in particular among girls and children/youth from low socioeconomic backgrounds.

ACTIVE TRANSPORTATION

C-

There are currently no specific international recommendations on the use of active transportation. However, there is evidence to suggest that active transportation adds to overall physical activity levels [28,29]. FCS data showed that 49% of 3- to 5-year-old children (preschoolers) and 47% of 6- to 9-year-old children (school-aged children) use active forms of transportation, defined as walking or cycling, to travel to and from school [23]. It should be noted here that the prevalence rate in children does not exclude passive forms of transport. Similarly, 40% of adolescents reported that they usually use active transportation (walking, cycling, step/rollerblades) to travel to/from school.

Active transportation is more common in Flanders, among children of low SES, and among adolescents of high SES.

Data source

FCS data were used to grade this indicator [3,23].

What does this grade tell us?

This indicator was graded a C- based on the presence of substantial regional and SES differences. Because no international recommendations exist, benchmarks were set by the RWG based on available data. The current benchmark, i.e. proportion of children and youth (usually) using active transport, defined as walking or cycling, to and from school is consistent with Report Cards from other countries. Results presented in this Belgian report card indicate that there is substantial room for improvement when it comes to children and youth's active transportation to and from school. The creation of a safe and attractive built environment plays a key role in the promotion of active transport among children and youth.

D- SEDENTARY BEHAVIORS

Screen-time behavior is the most prevalent sedentary behavior in youth [30,31]. International recommendations on recreational screen time state that children under the age of 5 years should limit their screen time to 1 hour per day [21,32], while older children should limit their screen time to 2 hours per day [17,18,33-35]. According to FCS data, 65% and 25% of 3- to 5-year-olds meet the international recommendations on weekdays and weekend days, respectively [23]. Among older school-aged children (6-9 years), 89% of children meet the recommendations on weekdays and 46% of children on weekend days. Results for adolescents 10-17 years were least favorable;

only 45% of adolescents meet the recommendations on a weekday and 16% meet the recommendations on a weekend day.The guideline is more often met by girls, children in Wallonia and adolescents in Flanders, and by children and adolescents of (mid-)high SES.

Data source

FCS data were used to grade this indicator [3,23].

What does this grade tell us?

Based on the varying grades for different age groups and weekday versus weekend day (i.e. ranging from 16% of adolescents meeting screen recommendation on weekend days to 89% of 6- to 9-year-old children meeting screen recommendations on week days), an average D grade was allocated to this indicator. A minus sign was added to represent the large inequalities among genders, regions and socioeconomic groups. The FCS collects self-reported data on multiple sedentary behaviors, including screen time (included in this report card), passive transportation (e.g. by car or public transportation), sedentary playtime (e.g. reading, inactive hobbies), and homework (adolescents). Due to a lack of recommendations on these behaviors, as well as limited evidence on the associations of these behaviors with poor health outcomes [36], it was decided to limit this indicator to screen time. It should be noted that screen time was self-reported while direct observation is preferred [37]. Furthermore, studies have shown that total sedentary time is associated with poor (metabolic) health [38,39], and that interrupting sedentary time by introducing active breaks may lead to a decrease of the risk of poor cardio metabolic health outcomes in adults [40,41]. In general, results from this report card show that only few children and even fewer adolescents meet the international evidence-based recommendations on screen time, especially during the weekends. When combined with the results from overall physical activity levels, these results demonstrate a highly sedentary lifestyle for Belgian children and youth that warrants preventive interventions in the home setting and school setting.

INC DIETARY BEHAVIORS

Because a healthy diet is important for optimal growth and development [42], and based on research showing an association between a healthy dietary pattern and physical activity in children [43,44], the research working group decided to include dietary behaviors as an additional indicator. The following sub indicators were selected based on previous research showing associations with physical activity and childhood overweight [43-46]: consumption of fruit, consumption of sugar sweetened beverages, and daily breakfast consumption. Currently, no specific (uniform) international recommendations on these dietary behaviors exist. Therefore, benchmarks for this indicator were based on the Flemish recommendations for a healthy diet [33]. In general, daily breakfast consumption is promoted and consumption of sugar sweetened beverages is discouraged. With respect to fruit consumption, preschoolers (3-6 years) are recommended to consume 1-2 pieces of fruit per day (100-200 gr), older children (6-12 years) 2 pieces of fruit per day (250 gr), and adolescents (12-18 years) 3 pieces of fruit per day (375 gr). FCS data showed that most Belgian children (85%) and adolescents (65%) consume breakfast

daily [47]. However, only few children and youth never consume sugar sweetened beverages, with estimates ranging from 3% (Flemish preschool children [6,7]) to 12% (Walloon adolescents [15]). Fruit consumption is more prevalent among Flemish preschoolers (69% with fruit consumption >100 gr/day [6,7]) compared with Flemish adolescents (19% with ≥ 2 pieces of fruit/day) or Walloon adolescents (22% with ≥ 2 pieces of fruit/day) [15].

Data source

For daily breakfast consumption, FCS data were used [3,47]. At the time of grading, information on fruit and SSB consumption was not yet available from the FCS. For preschool children 4-6 years, data from the Flemish ToyBox study were used [6,7]. For adolescents 11-18 years, data from the Health Behaviour in School-aged Children were used (Flanders and Wallonia) [15].

What does this grade tell us?

Taking into account the varying grades for the sub indicators, the lack of uniform international recommendations, and the lack of nationally representative information for some of the sub indicators (i.e. fruit and SSB consumption for very young children was lacking for Wallonia), this indicator was graded an incomplete (INC). Because no uniform internationally recommendations on these dietary behaviors currently exist, benchmarks were based on dietary recommendations formulated by Eetexpert.be, a knowledge center on dietary and weight problems, commissioned by the Flemish ministry of Welfare, Public Health and Family and supported by an advisory board of scientist and public health workers [33]. It should be noted that while consumption of sugar sweetened beverages is discouraged and daily consumption of breakfast and fruit is promoted, no specific guidelines exist on the maximum amount of sugar sweetened beverages or type of breakfast to be consumed [48]. Results from this report card show that daily breakfast and fruit consumption should be (further) promoted, and consumption of sugar sweetened beverages reduced, especially among adolescents.

D WEIGHT STATUS

The definition of a normal weight status was based on international criteria proposed by the International Obesity Task Force [12,13]. Objectively measured data from the FCS showed that 76% of Belgian children (3-9 years) and 72% of Belgian adolescents (10-17 years) have a normal weight [47]. The prevalence of overweight including obesity is 16% and 18% for children and adolescents, respectively. Overweight is more common among adolescents in Wallonia and among children and adolescents of (mid-)low SES.

Data source

FCS data were used to grade this indicator [3,47].

What does this grade tell us?

Grading of this particular indicator is difficult because it is a health outcome rather than a health behavior. Given the substantial prevalence of overweight including obesity, the

RWG, supported by the stakeholder groups, allocated a D to this indicator. Promoting physical activity and reducing sedentary behaviors, especially in light of the current findings, is warranted to tackle the overweight problem among Belgian children and youth.

INFLUENCES ON PHYSICAL ACTIVITY AND HEALTH OUTCOMES

INC

FAMILY AND PEERS

There are currently no specific international recommendations for family and peer influences. Parental modeling, however, is an important factor of children's and adolescents' physical activity levels. International recommendations on physical activity levels state that adults should achieve at least 150 minutes of moderate-to-vigorous physical activity per week [19,49]. However, only a minority of parents of preschoolers (10%) and adolescents (26%) are moderately to vigorously physically active for at least 30 minutes per day [6,7,14]. In contrast, 83% of adolescents reported that their friends often/always participate in physical activity/sports [14]. Literature has also shown that parental support or encouragement is an important factor of children's and adolescents' physical activity. For Flanders, data from the ToyBox study (preschoolers) [6,7] and Energy study (adolescents) [14] showed that 84% of parents provide substantial encouragement to children and youth to participate in sports/physical activities.

Data source

Data on family and peer influences were collected in the ToyBox study for Flemish preschoolers [6,7] and in the ENERGY study for Flemish adolescents [14]. No representative data were available for Wallonia.

What does this grade tell us?

Based on a lack of data for Wallonia, this indicator was graded with an incomplete (INC). When considering data for Flanders only, it seems that Belgian children and youth receive substantial encouragement from their parents. However, parental participation in physical activity is reported to be poor, especially among parents of preschoolers. It is possible that parents of preschool children prioritize work, family life, and needs of their children over their own leisure pursuits, while parents of adolescents are more likely to have free time to spend on their hobbies. Parents should be made aware of their influencing role, but further research, especially in the Wallonia region, is warranted.

B-

SCHOOL

There are currently no specific international recommendations for factors related to the school environment. FCS data show that almost all adolescents in Flanders (94%) and Wallonia (94%) receive at least 2 hours of physical education (PE) per week at school [23]. Furthermore, initiatives to develop and enhance links between PE and other opportunities to be physically active in the wider community have received more attention during the last few years. A three-yearly survey in Flemish primary schools and

secondary schools conducted in 2012 yielded scores of 57/100 and 52/100, respectively, for overall school policy and programs on physical activity [16]. These overall scores represent school performance in three domains, including physical education in the regular school curriculum, physical activity regulations, and physical activity availabilities within the school. A negative trend in both overall scores was observed when compared to a previous survey in 2009. In the French-speaking community of Belgium, 32% of secondary schools obtained a score of ≥50/100 when scored on the importance given to physical activity promotion in their school [50].

Data source

Individual data on PE classes on school, the indicator presented in most other report cards, is available from the FSC [3,23]. In Flanders, the Flemish Institute for Health Promotion and Disease Prevention (VIGeZ) collects school level information on physical activity regulations and policy for both primary schools and secondary schools through a self-reported survey (in most cases filled in by the school principal) called the "Report on the Indicator Survey in School" [16]. In the French-speaking part of Belgium, secondary schools were rated on physical activity promotion by researchers from the University of Liege [50].

What does this grade tell us?

The high percentage of adolescents reporting that they have regular PE classes are illustrative of the fact that national legislation dictates at least 2 hours of PE classes on a weekly basis in both primary and secondary school education. In secondary education, only specialist teachers are entitled to teach physical education, whereas in primary education schools can decide between specialist teachers and generalist teachers based on staff resources and availability [51]. Schools' performance with respect to rules, regulations and the provision of alternative opportunities for physical activity at school beyond mandatory PE classes is poorer, as indicated by the ratings in the surveys for both Flanders and Wallonia. Because the grades for the sub indicators varied (i.e. ranging from A for % of Belgian adolescents participating in weekly 2-hour PE classes to D for % of secondary schools in Wallonia recognizing the importance of physical activity promotion), the RWG agreed on an average B grade to emphasize the positive efforts that Belgian schools undertake to promote physical activity among their pupils. The minus sign was added to the overall grade to indicate that the majority of sub indicators, with the exception of school PE (A), were graded a C or D.

INC COMMUNITY AND THE BUILT ENVIRONMENT

There are currently no specific international recommendations for factors related to the community and the built environment. In Flanders, 61% and 34% of 13- to 14-year-old adolescents reported that in their neighborhood most of the streets have pedestrian paths and cycle tracks, respectively [52]. Furthermore, 91% and 90% of adolescents reported that they do not agree that in their neighborhood there is so much traffic in nearby streets that it is dangerous to walk or cycle. Finally, 28% of adolescents reported that it is safe to play on the street in their neighborhood.

Data source

Data for this indicator come from a longitudinal study on the environment and physical activity of Flemish adolescents conducted by Ghent University [52]. Data used in this report card are taken from the follow-up measurements. Similar information for Wallonia is lacking.

What does this grade tell us?

Due to a lack of information on built environmental factors outside the direct neighborhood (e.g. school, larger environment) and lack of data for Wallonia, this indicator was graded with an incomplete (INC). More research on the wider built environment and for the Wallonia region is warranted. The presented results for Flanders only indicate that there is room for improvement regarding the built environment, in particular regarding safe opportunities for children's outdoor play.

GOVERNMENT STRATEGIES AND INVESTMENTS

There are currently no specific international recommendations for factors related to government strategies and investments. In Flanders, the Flemish Agency for Care and Health is an internally autonomous agency within the Flemish authorities and creates qualitative conditions for promoting, monitoring, sustaining or restoring the welfare and health levels of the current and future Flemish population. The Flemish Action plan for nutrition and physical activity 2009-2015 was established in 2008, containing health targets with the aim of motivating the population in Flanders (12-60+ years) to engage in physical activity and healthy nutrition [53]. It also includes information on strategies, priorities and actions to achieve the changes in health behaviors and health [54]. One of the strategies is to provide health care professionals with the correct information on nutrition and physical activity and therefore a Flemish consensus text with recommendations on nutrition, physical activity and sedentary behavior was established [33,55]. Another strategy is the implementation of several projects in Flanders promoting healthy nutrition and physical activity, many of which are based in the school setting [56]. In Wallonia, the Parliament of the French-speaking community in Belgium passed the Political Declaration of the French-speaking community for 2014-2019 [57]. This Political Declaration includes a dedicated "Sports for All" policy which aims to use government strategy to encourage uptake of physical activity for all, which may include coupling sports, health, education and social integration. School sport and biking to school initiatives are supported in this document. Nonetheless, this Political Declaration still needs to be translated in operational strategies and health targets. National legislation dictates that children and youth in primary and secondary education should receive a mandatory minimum of two hours PE per week. Furthermore, a soft drink tax has been established in Belgium since the beginning of 2016.

Data source

Data sources for this indicator include qualitative policy documents and websites on local and federal rules and regulations [33,53-57]

What does this grade tell us?

Based on the qualitative information and subsequent synthesis, the RWG decided to assign this indicator a 'C+'. Results presented in this report show that legislation is in place to encourage PE at school and discourage consumption of soft drink. Furthermore, both Flemish and Walloon authorities acknowledge the public health value of physical activity in children and youth, and aim to promote physical activity behaviors for all. In contrast with the Flanders region, Wallonia has yet to translate these aims into concrete strategies and health targets.

CONCLUSION: STATE OF THE NATION

The 2016 Active Healthy Kids Belgium Report Card on Physical Activity for Children and Youth shows that levels of overall physical activity are low and levels of sedentary behaviors (i.e. screen time) are high, despite moderately positive influences from the social, political, and built environment. Furthermore, despite moderately positive scores for specific physical activity behaviors, i.e. organized sport participation, active play, and active transportation, children and youth are not meeting the international physical activity recommendations. Evidence-based strategies are needed to make full use of the policies and projects currently in place and to ensure that participation in physical activity behaviors results in sufficient levels of PA.

Based on the data presented in this report card, we propose the following top strategies to promote physical activity levels among Belgian children and youth:

1. *To make full use of schools' potential to promote physical activity, we need to take a whole-of-school approach that is comprehensive, coordinated, and provides opportunities for children and youth to be active before, during, and after school. This should include offering quality physical education, providing activity-friendly school playgrounds, promotion of active transport and organization of sports activities at lunch, recess, and after school in partnership with the wider community.*

2. *To lower gender and social inequalities in organized sports participation and also reach the less sports talented, sports clubs should be encouraged and supported to be more inclusive.*

3. *To promote outdoor play, active transportation, and other unstructured physical activities, the creation of safe and attractive physical environments is key and needs to be done in collaboration with urban planners and other relevant stakeholders.*

4. *Schools should be encouraged to provide regular movement breaks and to implement environmental changes to decrease and interrupt prolonged sitting time during school hours.*

5. *Structural systematic nationwide (objective) monitoring of physical activity, sedentary behavior and related health behaviors is needed to inform policy and practice.*

Table 1. Grades according to physical activity indicator in the 2016 Belgium Report Card on Physical Activity for Children and Youth

Indicator	Grade
Overall physical activity	F+
Organized sport participation	C-
Active play	C+
Active transportation	C-
Sedentary behaviors	D-
Dietary behaviors	INC
Weight status	D
Family and peers	INC
School	B-
Community and the built environment	INC
Government strategies and investments	C+

Note. The grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: A is 81% to 100%; B is 61% to 80%; C is 41% to 60%, D is 21% to 40%; F is 0% to 20%; INC is incomplete data.

Table 2. Overview of data sources

Indicator	Data source	Region	Study sample (general study)		
Overall physical activity	FCS 2014-2015 Objective data	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Organized sport participation	FCS 2014-2015	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Active play	FCS 2014-2015	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Active transportation	FCS 2014-2015	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Sedentary behaviors	FCS 2014-2015	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Dietary behaviors	FCS 2014-2015 (breakfast)	Flanders, Wallonia	n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
	Toybox 2012 (SSBs, fruit preschoolers)	Flanders	n=1327 (4-6 years)		
	HBSC 2013-2014 (SSBs, fruit adolescent)	Flanders, Wallonia	n=9566 (11-18 years, Flanders)		n=14180 (11-18 years, Wallonia)
Weight status	FCS 2014-2015Flanders, Wallonia Objective data		n= 488 (3-5 years)	n=575 (6-9 years)	n=964 (10-17 years)
Family and peers	Toybox 2012 (preschoolers)	Flanders	n=1327 (4-6 years)		
	Energy 2010 (adolescents)	Flanders	n=1003 (10-12 years)	n=763 (parents)	
School	2012 Indicator Survey importance given to on health policies and regulations within schools	Flanders	n=1006 (primary schools)	n=451 (secondary schools)	
	Regional survey on the importance given to physical activity promotion in secondary schools (Snyers et al., 2014)	French speaking Belgium	n=51 (secondary schools)		
Community and the built environment	Longitudinal study on the environment and physical activity of Flemish adolescents (De Meester et al., 2014)	Flanders	n=420 (13-14 years at follow up in 2012)		
Government strategies and investments	Multiple policy documents				

FCS= Food Consumption Survey; HBSC = Health Behaviour in School-aged Children; SSBs *= sugar sweetened beverages.*

Table 3. Proportion of Belgian children and youth meeting predefined benchmarks in the total population, according to region, gender, and socioeconomic status

Indicator	Benchmark	Total	Flanders	Wallonia	Boys	Girls	Low SES	Mid SES	High SES
Overall physical activity	% of children 3-5 years with ≥ 180 min/day LMVPA daily	96,2	97,1	95,1	95,0	97,4	93,4	98,4	96,3
	% of children 6-9 years with ≥ 60 min/day MVPA daily	6,5	6,9	3,5	11,3	1,6	10,4	3,3	6,5
	% of youth 10-17 years with ≥ 60 min/day MVPA daily	2,4	2,6	1,5	4,2	0,5	4,1	1,2	1,5
Organized sport participation	% of children 3-9 years who are member of a sports club	56,0	60,4	53,4	54,8	57,3	44,5	62,5	63,3
	% of youth 10-17 years who participate in sports (one or more)	75,0	77,1	73,6	78,2	71,7	66,8	77,3	83,8
	% of youth 10-17 years who participate in sports/physical activity at school (outside PE hours)	44,7	42,2	49,5	55,3	32,9	45,5	41,3	45,7
Active play	% of children 3-9 years who engage in active outdoor play yesterday (last weekday)	79,4	82,8	76,1	76,4	82,5	75,0	77,8	85,9
	% of children 3-9 years who engage in active outdoor play yesterday (weekend day)	82,3	85,4	78,9	81,8	82,9	76,2	81,3	90,6
	% of youth 10-17 years who participate in sports/play as main activity during playtime at school	25,5	26,6	25,1	33,7	16,9	27,7	27,9	20,7
	% of youth 10-17 years who participate in sports/play as main activity during lunchbreak at school	29,1	32,7	25,8	38,0	19,7	29,2	33,0	26,6
Active transportation	% of children 3-9 years who use active transport to/from school (walking, bicycle)	47,6	51,3	36,5	48,4	46,9	51,8	45,1	45,1
	% of youth 10-17 years who usually use active transport to/from school (walking, bicycle, rollerblades)	40,2	58,9	16,5	38,9	41,6	35,6	39,0	48,1
Sedentary behaviors	% of children 3-5 years with electronic media < 1 hour/day weekday	64,6	57,9	68,5	60,6	68.9	46,6	76,0	72,4
	% of children 3-5 years with electronic media < 1 hour/day weekend day	25,2	22,2	28,9	18,4	32,4	16,0	23,5	38,0
	% of children 6-9 years with electronic media < 2 hour/day weekday	89,1	88,1	91,6	84,2	94,1	80,4	95.7	92,6
	% of children 6-9 years with electronic media < 2 hour/day weekend day	46,3	44,5	46,3	34,6	57,7	37,3	44,4	58,8
	% of youth 10-17 years with electronic media < 2 hour/day weekday	45,1	46,9	41,5	41,2	49,1	35,1	48,4	55,4
	% of youth 10-17 years with electronic media < 2 hour/day weekend day	16,2	17,6	12,6	13,0	19,4	11,7	15,5	23,3
Dietary behaviors	% of children 3-9 years who consume breakfast every day	84,8	85,8	81,8	84,3	85,4	75,0	88,5	91,9
	% of children 4-6 years who never consume SSB (i.e. soft drinks, fruit juice prepackaged, sweet dairy)		2,6						
	% of children 4-6 years who consume fresh fruit > 100 gr/day		68,5						
	% of youth 10-17 years who consume breakfast every day	64,6	68,4	57,5	64,9	64,3	48,7	75,5	76,1
	% of youth 11-18 years who never consume soft drinks		4,7	11,7					
	% of youth 11-18 years who consume ≥ 2 pieces fruit every day		19,4	22,3					

Indicator	Benchmark	Total	Flanders	Wallonia	Boys	Girls	Low SES	Mid SES	High SES
Weight status	% of children 3-9 years with a normal weight	75,8	77,0	73,9	79,0	72,5	75,2	74,5	78,5
	% of youth 10-17 years with a normal weight	72,0	73,4	67,0	72,7	71,3	64,9	74,6	79,4
	% of children 3-9 years with overweight (including obesity)	15,5	13,6	17,2	14,0	17,1	19,9	14,0	11,1
	% of youth 10-17 years with overweight (including obesity)	18,2	16,3	22,7	16,8	19,6	25,4	16,4	9.6
Family and peers	% of parents of children 4-6 years with ≥ 30 min/day MVPA daily		10,1						
	% of parents of children 4-6 years who agree that that they encourage their child to be physically active		84,0						
	% of parents of youth 10-12 years who are physically active ≥ 30 min/day		26,4						
	% of parents of youth 10-12 years who indicate that they often/always encourage their child to take part in physical activity/sports		*84,2*						
	% of youth 10-12 years who indicate that friends often/always participate in physical activity/sports		83,1						
School	Primary schools - total score physical activity (0-100)		56,9						
	Secondary schools - total score physical activity (0-100)		52,4						
	Secondary schools - % of *schools with rating* importance given to physical activity promotion in French-speaking Belgium ≥50/100			*31,9*					
	% of youth 10-17 years who receive ≥ 2 hours of PE/week (80 min)	93,5	94,0	93,9	93,7	93,4	91,9	95,8	94,0
Community and the build environment	% of youth 13-14 years who indicate that in their neighborhood most of the streets have pedestrian paths		60,8						
	% of youth 13-14 years who indicate that in their neighborhood most of the streets have cycle tracks		33,9						
	% of youth 13-14 years who do not indicate that in their neighborhood there is so much traffic in nearby streets that it's dangerous to walk		*91,0*						
	% of youth 13-14 years who do not indicate that in their neighborhood there is so much traffic in nearby streets that it's dangerous to cycle		90,0						
	% of youth 13-14 years who indicate that in their neighborhood it's safe to play on the street (e.g. football, skating)		28,2						
Government strategies and investments	Not applicable								

LMVPA =low-to-vigorous physical activity (total physical activity); MVPA= moderate-to-vigorous physical activity; PE= physical education; SES= socioeconomic status (as indicated by parental educational level)

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