Physical Activity, Dietary Consumption and Weight Status of school-aged children

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HBSC Luxembourg 2022

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KEY FINDINGS

- Boys are more physically active than girls.
- Girls consume vegetables daily more frequently than boys.
- Prevalence of overweight and obesity is higher for boys than for girls.

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Physical activity in youth confers benefits for the following health outcomes: physical fitness, cardiometabolic health, bone health, reduced adiposity, cognitive outcomes and mental health (Bull et al., 2020). Eating a balanced and varied diet and establishing healthy eating habits among youth can promote optimal health, growth and development.

Good physical activity habits and healthier eating habits established during childhood and adolescence are likely to be carried through into adulthood, while lower levels of physical activity and excessive intake of discretionary foods are associated with obesity (Tsoi et al., 2022), a serious public health issue around the world (World Obesity Federation, 2022). Based on the existing evidence, the WHO recommendation of vigorous-intensity aerobic activities (that make you get out of breath or sweat) should be incorporated at least 3 days per week for youth between 12-18 years old (Bull et al., 2020). Regarding fruits and vegetables, the WHO recommendation is to eat at least 400 g (corresponding to 5 portions) of fruits and vegetables per day (WHO, 2019).

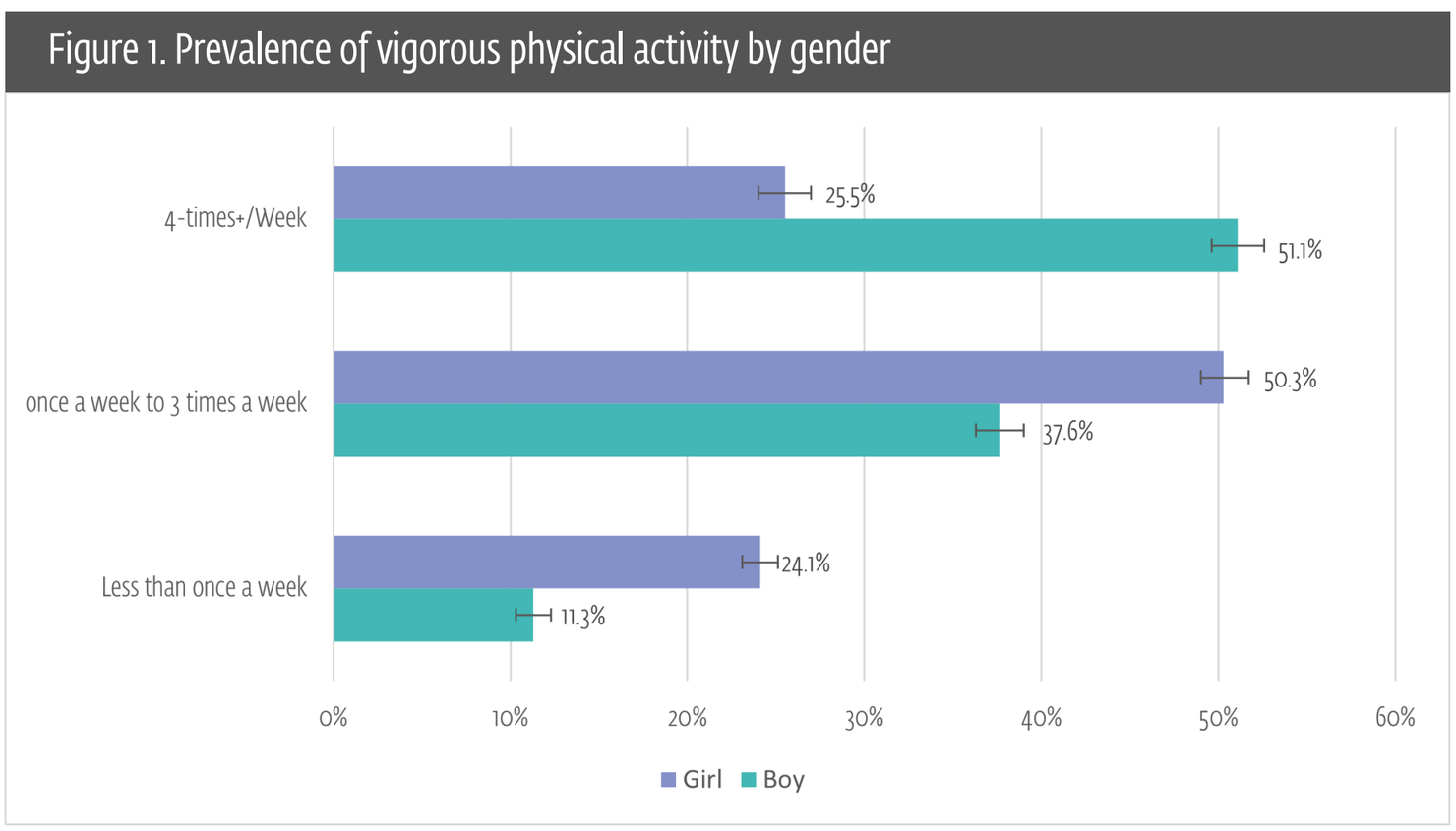
This factsheet presents results from the 2022 HBSC Luxembourg survey on vigorous physical activity, dietary consumption and weight status. In order to measure physical activity, pupils were asked how many days they were physically active for at least 60 minutes during the previous week, how many times a week they consume fruits, vegetables, sweets, and soft drinks, as well as their height and weight. Afterwards, Body Mass Index (BMI) values were classified according to the frequently used limit values of the International Obesity Task Force (IOTF; Cole and Lobstein, 2012).

PHYSICAL ACTIVITY

Boys and girls who practice physical activity less than once a week were considered to be inactive. Twice more girls than boys were physically inactive (11.3% of the boys and 24.1% of girls; Figure 1).

75.8% of girls and 88.7% of boys practiced vigorous physical activity regularly (at least once a week). Even though part of the pupils (and specially girls) practicing physical activity regularly do not reach the levels recommended by WHO, the practice of some physical activity is already better than none. More physical activity, however, is better for optimal health outcomes (Bull et al., 2020) and was practiced by 25.5% of the girls and 51.1% of the boys.

Figure 1. Prevalence of vigorous physical activity by gender

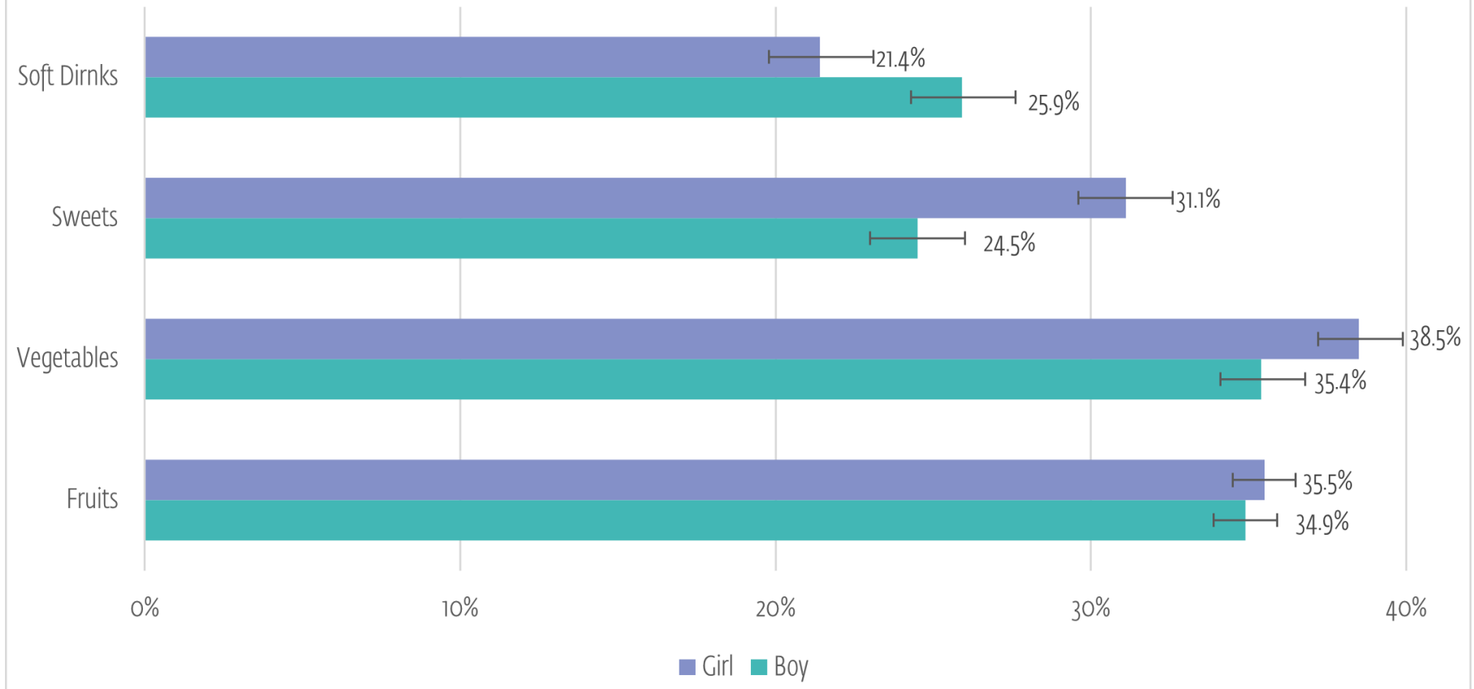


DIETARY CONSUMPTION

It can be observed in Figure 2 that while boys consume soft drinks daily more often than girls (25.9% vs 21.4%), girls are more prevalent in the daily consumption of sweets (31.1% vs 24.5%). Girls also consume vegetables more often than boys (38.5% vs 35.4%). No difference is found in the prevalence of daily fruit consumption. In sum, girls seem to have a healthier dietary consumption then boys.

Although the dietary consumption and physical activity are important health determinants, other indicators, such as eating frequencies, will be taken into consideration in future publications.

Figure 2. Prevalence of daily dietary consumption by gender

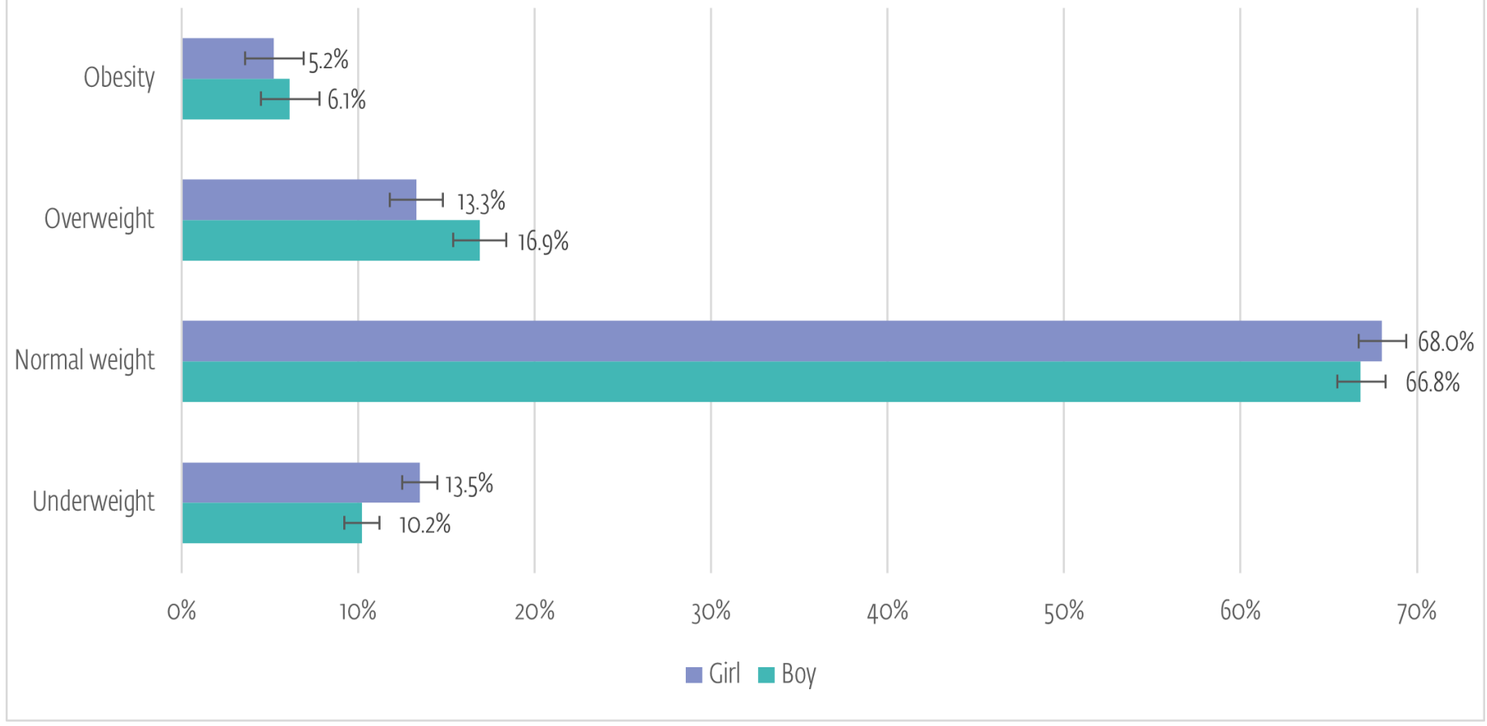


WEIGHT STATUS

Girls are more commonly in underweight than boys (10.2% of boys and 13.5% of girls); while the prevalence of overweight/obesity is higher for boys than girls (23.0% of boys and 18.5% of girls; Figure 3).

Underweight is associated with an increased risk of infectious diseases, nutritional deficiencies, a decreased cognitive and academic performance, menstrual irregularities, amenorrhoea, osteoporosis, and eating disorders (O'Dea and Amy 2011; Garrido-Miguel et al. 2021). Obesity during adolescence is associated with a higher chance of obesity and disability in the adult life and increases future risks of fractures, hypertension, cardiovascular disease, insulin resistance and undesirable psychological effects (Ali et al. 2023; Safaei et al. 2021).

Figure 3. Prevalence of BMI categories by gender



CONCLUSION

In Luxembourg, boys are more physically active than girls. However, a more complex scenario appears for the dietary consumption, as the gender pattern is not clear if all indicators are taken into consideration.

Furthermore, despite practicing more physical activity, overweight is more prevalent in boys; while girls are more frequently underweight. Both overweight and underweight have a significant impact on health, well-being, and the development of children and adolescents. Weight status is, however, determined by numerous factors, otherwise said, considered to have a multifactorial causation. Further analyses should be taken to explore other factors associated with these phenomena in Luxembourg.

Scan the QR code for more information on how health behaviours of school aged children in Luxembourg changed over time.

METHODS

The study population in this factsheet concerns pupils aged 11 to 18 attending Luxembourg public and private schools whose teaching is based on the national curriculum. Stratified sampling was used to randomly select school classes. All pupils in the selected classes were invited to participate in the study. Parents of these pupils received an information letter about the survey as well as an informed consent form. Both parents and the pupils themselves could refuse to participate in the study.

A representative sample of 8,737 pupils from 643 classes and 145 schools responded to an anonymized paper-pencil questionnaire in class, during school hours. The HBSC survey is developed collaboratively within the HBSC network, which gathers researchers from each country participating in the study. Established in English, the questionnaire was subsequently translated into French and German, using a translation/back-translation process.

For the analysis, data was weighted by the distribution of pupils between school levels, in order to compensate for the slightly disproportionate stratification. As such and due to the combination of multiple variables with different missing information, the prevalence of certain variables might differ than those presented in other publications.

The HBSC 2022 Luxembourg study was approved by the Ethics Review Panel of the University of Luxembourg (ERP 21-013 HBSC 2022).

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WHAT IS HBSC?

Health Behaviour in School-aged Children (HBSC) is a WHO collaborative cross-national study of adolescent health and well-being. The HBSC survey aims to evaluate well-being, health status and health-related behaviours, in order to better understand the relationship between health and social factors and inform policy and practice to improve young people's lives.

Luxembourg has regularly participated in the HBSC study since 2006 (2010, 2014, 2018 and 2022). Since 2016, the HBSC Luxembourg study has been carried out in collaboration with the Ministère de l'Éducation nationale, de l'Enfance et de la Jeunesse, the Ministère de la Santé/Direction de la Santé and the University of Luxembourg.

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