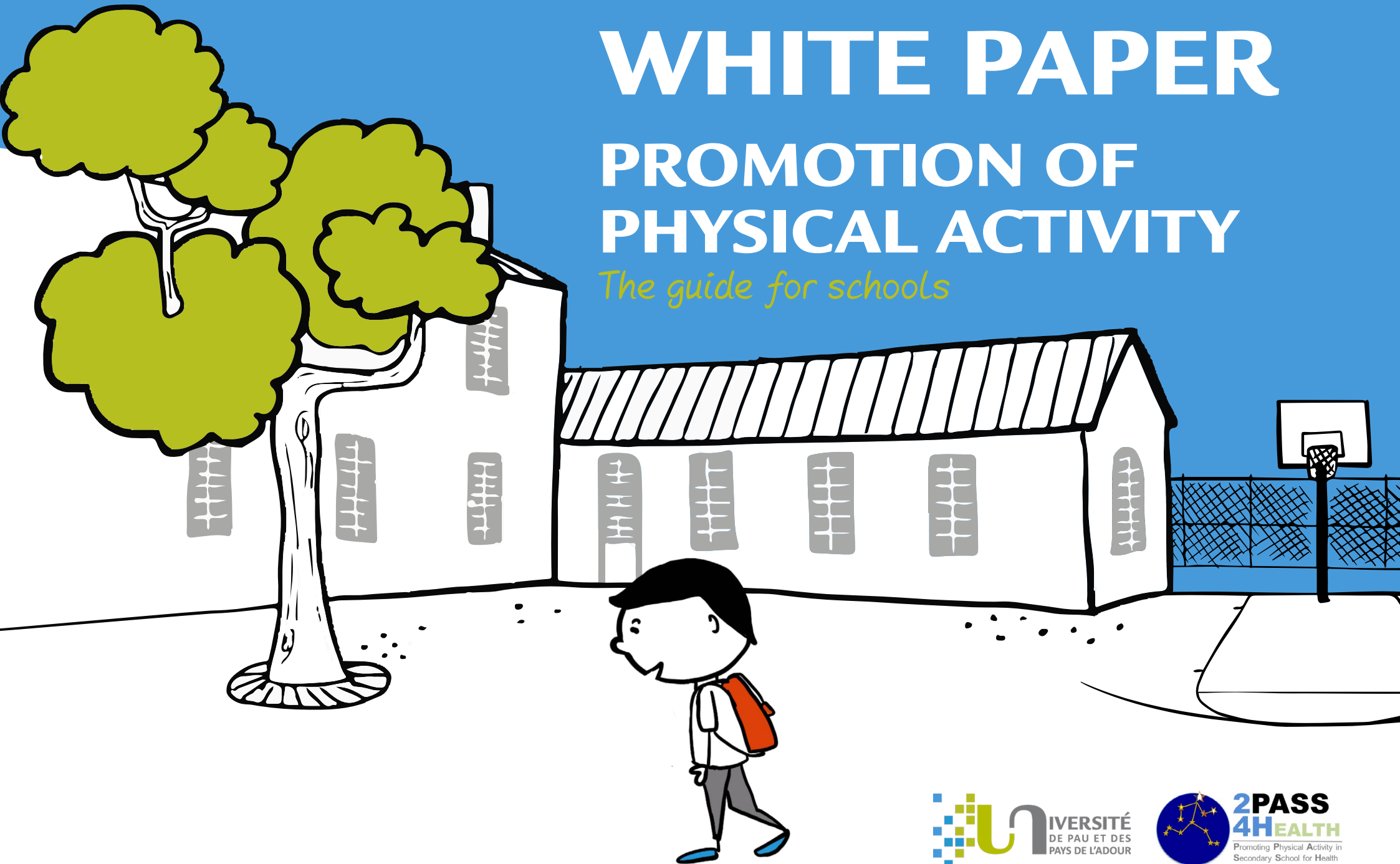


WHITE PAPER

PROMOTION OF PHYSICAL ACTIVITY

The guide for schools





Framework of the guide

This guide was produced as part of the 2PASS-4Health project (Promoting Physical Activity in Secondary School for Health) funded by the European Union's Erasmus+ programme (01/01/21 - 31/12/22) and led by the University of Pau and the Pays de l'Adour. This project is the result of an international collaboration between 5 universities (UPPA-France, University of Zaragoza-Spain, University of Limerick-Ireland, University of Ghent-Belgium, University of Porto-Portugal) and the city of Tarbes. Its objective is to promote physical activity and to fight against sedentary lifestyles among adolescents in schools.

Recognising that the European population is insufficiently active and that physical inactivity is a major cause of premature death and disease in high-income countries, the EU Council stressed the need to develop a specific policy to promote physical activity among children and adolescents, two-thirds of whom are not sufficiently active between The ages of 11 and 15.

2PASS 4Health aims to bridge the gap between theory and practice by adopting a participatory approach to identify existing good practices, translate recent scientific knowledge into accessible information and provide clear knowledge and easy-to-use tools for practitioners to improve the promotion of physical activity and sport among adolescents

WHO IS THIS GUIDE FOR?

This guide presents the challenges of promoting physical activity among children and adolescents, as well as the principles for action in the school setting.

It is intended for all stakeholders in the school system, i.e. political decision-makers (national, regional and local), school heads, teachers, extracurricular and health actors, etc.

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SUMMARY

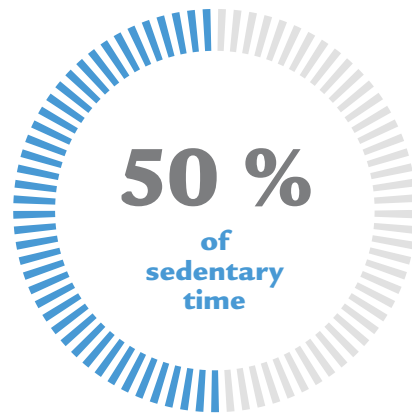
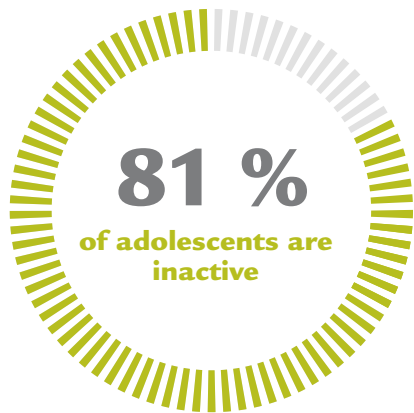
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Context



A study published in 2020, involving 1.6 million young people aged 11-17 in 146 countries, showed that 81% (85% girls and 76.7% boys) were inactive in 2016 (1).

However, this overall figure masks a diversity among the different countries:

- the inactivity rate ranged from 72% for Ireland to 89.5% for Australia;
- while the countries with the lowest inactivity rates decreased it since 2001, the countries with the highest inactivity rates have seen it increase over the same period.

It therefore appears that the inactivity rate is not due to chance, but is the result of many interrelated factors. related (personal, interpersonal, environmental and (see P.07) and the fight against this inactivity requires specific public policies to be put in place.

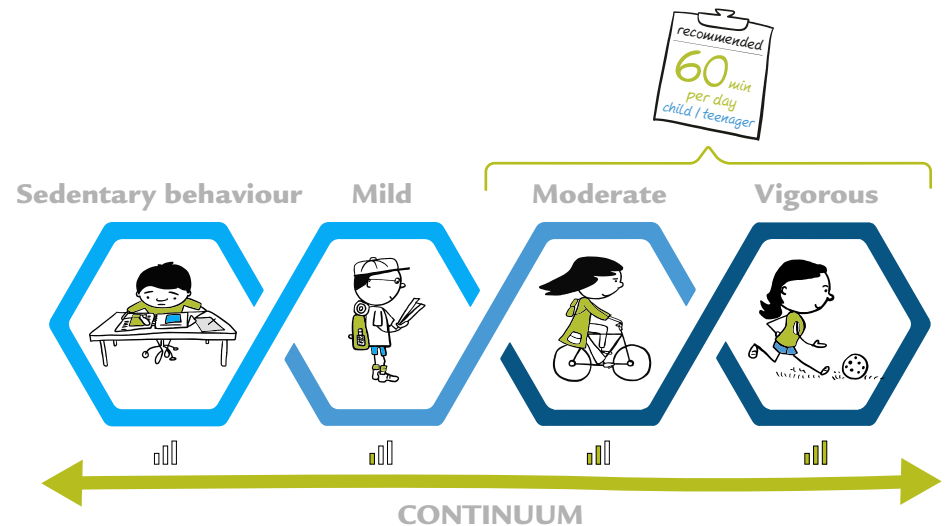
WHAT IS INACTIVITY ?

Inactivity is the failure to comply with the recommendations for health-enhancing physical activity.

- Health-enhancing physical activity corresponds to **moderate to vigorous physical activity (MVPA)**.
- The recommendation for children and adolescents is **60 minutes** of MVPA per day.

During the day, we are alternately either **active** or **sedentary**.

- **Physical activity (PA)** is any bodily movement produced by skeletal muscle contraction that results in an increase in energy expenditure relative to resting energy expenditure
- Physical activity can be light, moderate or vigorous depending on its intensity.
- **Sedentary behaviour (SB)** is any activity that does not significantly increase energy expenditure above the resting level.



WHAT IS THE PROBLEM WITH BEING INACTIVE ?



Number of deaths due to inactivity

3,9 M⁽³⁾

Corresponds to half of the death number due to smoking

SEDENTARY BEHAVIOUR



Increased mortality due to sedentary behaviour

+12 to 57%

Compensation between physical activity and sedentary behaviour is possible but difficult: it is estimated that 10 minutes of moderate to vigorous physical activity per hour of sedentary behaviour (sitting, TV, console, etc.) compensates for the risks on mortality.

Physical inactivity is an **important factor in premature death*** and non-communicable diseases such as cardiovascular diseases, chronic respiratory diseases, cancers, diabetes, neurodegenerative diseases... (4).

For example, it has been estimated that increasing the level of moderate to vigorous physical activity by 15 minutes per day reduces the risk of mortality by 20%, increasing it by 30 minutes per day reduces the risk by 31%, and increasing it by 60 minutes per day reduces the risk by 40% (5).

Furthermore, increased sedentary time is associated with an increased risk of mortality of 12-57% (6).

* Estimates of the annual number of deaths related to physical inactivity vary according to the estimation methods: 5.4 million for WHO in 2016, 800,000 for WHO in 2022, and 3.9 million (corresponding to 7% of annual deaths) for Katzmarzyk, 2022 (2)

Benefits of physical activity

The benefits of physical activity in preventing many non-communicable diseases are well known.

- **Improved physical fitness and motor skills.** The cardiorespiratory fitness of adolescents decreases by an average of 7.5% in France every 10 years (8,9). This is linked to a decrease in the level of physical activity, and can therefore be countered by regular exercise.
- **Reduced adiposity,** and thus preventing overweight and obesity. For example, high levels of physical activity are associated with a healthy weight status in adolescents (9).
- **Improved cognitive performance and school results.** Physical exercise has a positive effect on working memory, inhibition skills and cognitive flexibility (10).
- **Improved self-esteem and self-confidence.** The physical dimension of self-esteem is favourably influenced by the practice of physical activities (11). It is largely developed during adolescence, and affects the confidence that the adolescent may feel in different situations.
- **Improved well-being and reducing the risk of depression.** Physical activity seems to promote general well-being, and acts both to prevent and treat depression in adolescents (9).
- **Facilitated of social relationships.** The practice of physical activity represents an opportunity to create and strengthen the social ties of adolescents



Self-esteem, self-confidence



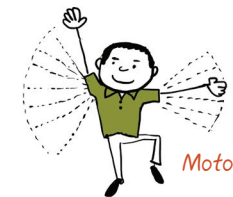
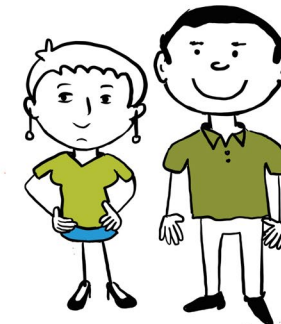
Social relationship



Benefits on the organs

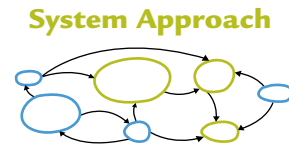
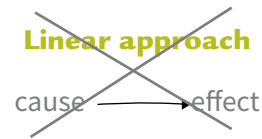


Improved attention and school results



Motor skill

Approach



THE ISSUES

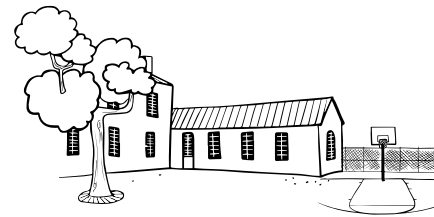
The aim is to increase physical activity and reduce sedentary time for all children and adolescents, not only during the intervention, but above all so that it lasts over time, beyond the intervention period. The **aim is therefore to achieve sustainable and comprehensive behaviour change**. Evidence-based interventions are to be preferred.

A SYSTEM APPROACH

This is a complex problem for which there is no single effective solution. It is necessary to act on multiple and interdependent factors in a connected whole. This requires recognition of the complexity and non-linearity of physical activity behaviour, which in turn requires a multi-component, multi-level systems approach.



Schools are recognised as ideal settings to provide children and adolescents with opportunities during, before and after school hours to meet the current international guidelines for Physical Activity, while giving them the tools to be independently active throughout their lives (8)



50%
of physical activity
recommendations⁽¹²⁾
should be carried out in
a school context

The systemic approach at the scale of the school

In order to take a systemic approach, it is necessary to understand the different influencing factors that are exerted on the individual and that interact with each other. Some authors have therefore proposed a model to explain health behaviour (13). According to this socio-ecological model illustrated opposite, physical activity behaviour is influenced by numerous factors which can be situated at 4 different levels:

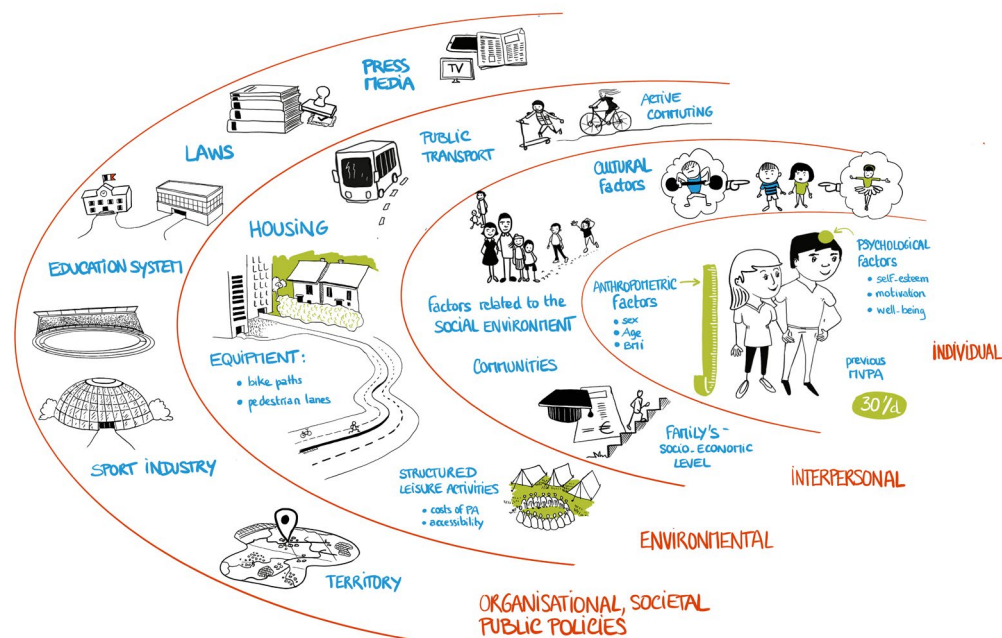
■ **at the level of the adolescent himself:** age, gender, physical skills, motivation, self-confidence, etc.

■ **at the level of the adolescent's environment:** the practice and encouragement of parents, teachers or peers, the socio-economic position of the family, etc.

■ **at the level of the adolescent's physical environment:** the availability of sports or active leisure activities, the availability of facilities in the vicinity, the existence or not of facilities facilitating active transport, the type of housing, etc.

■ **at the level of political or societal organisations (national and local) in which the adolescent evolves:** the organisation of the educational and sports system, the valorisation of practices by society or the media... These different components in these different levels are interconnected, and experience interactions and feedbacks (14).

Socio-ecological model of the different influencing factors on the physical activity behaviour of adolescents



CHARACTERISTICS OF THE INTERVENTIONS

4 important characteristics emerge for interventions to be effective and sustainable.

Characteristic 1 Identification of the different actors and co-construction process

In order to implement an intervention to promote physical activity, it is necessary to **identify the different stakeholder** who will interact to enable these changes. These actors are within the school: students, teachers, management, administration, school nurse, CPE..., but also outside: parents, extracurricular staff, sports clubs, city services (sports, urban planning...), elected officials, health agencies, researchers...

These different stakeholder will have to work in partnership to:

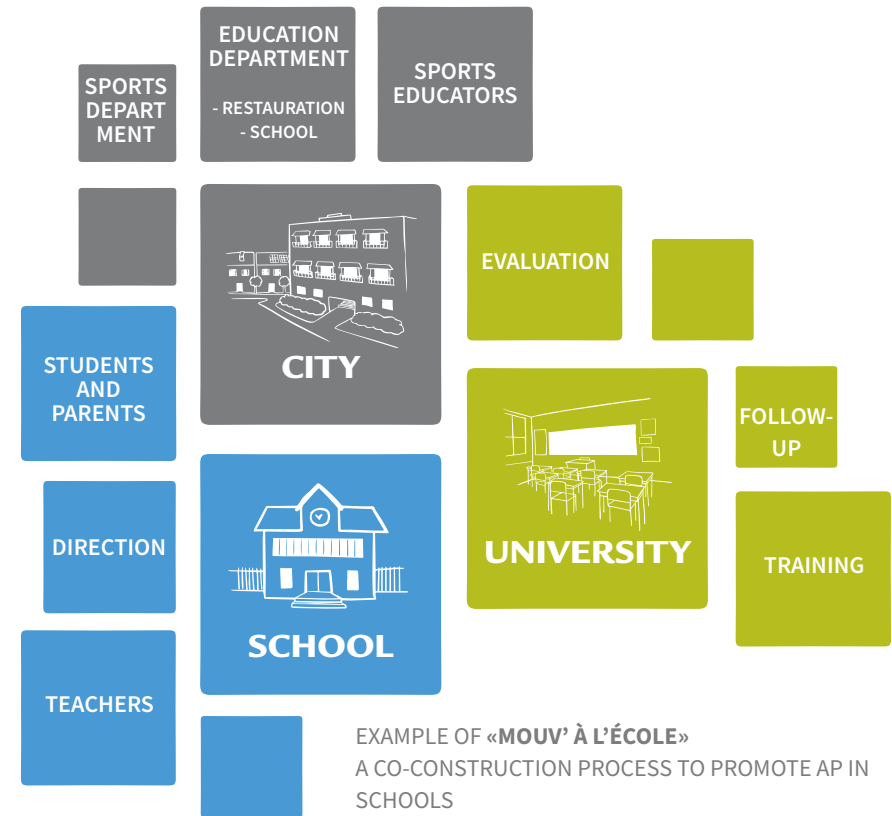
- share a common understanding,
- share their knowledge,
- to reflect on actions to be taken and establish an action plan, and to implement these actions,
- evaluate their effects,
- continue, adapt and/or stop the actions.
- poursuivre, adapter et/ou arrêter les actions.

It is therefore a matter of **co-construction between the target group (the pupils), the different stakeholder and the researchers*** to implement actions adapted to the context of the school and for which all the actors will feel responsible.

Some important factors for the success and sustainability of the project:

- **The presence of an identifiable and competent leader** (in some cases training is required) within the school (e.g. a referent teacher).
- **The involvement of the school's management** to ensure that the promotion of physical activity for health is at the heart of the school's project, and to facilitate the support of the various actors, prioritise initiatives and facilitate their implementation. The role of the management is also to be exemplary on these subjects.
- **The involvement and empowerment of pupils** by allowing them to express themselves and show leadership: collection of their representations, ideas, wishes and implementation of their proposals (more or less autonomously depending on their age).

* The presence of researchers can be a good support for the beginning of the actions, but they are not expected to stay in the school in the long term, as the actions should continue without them



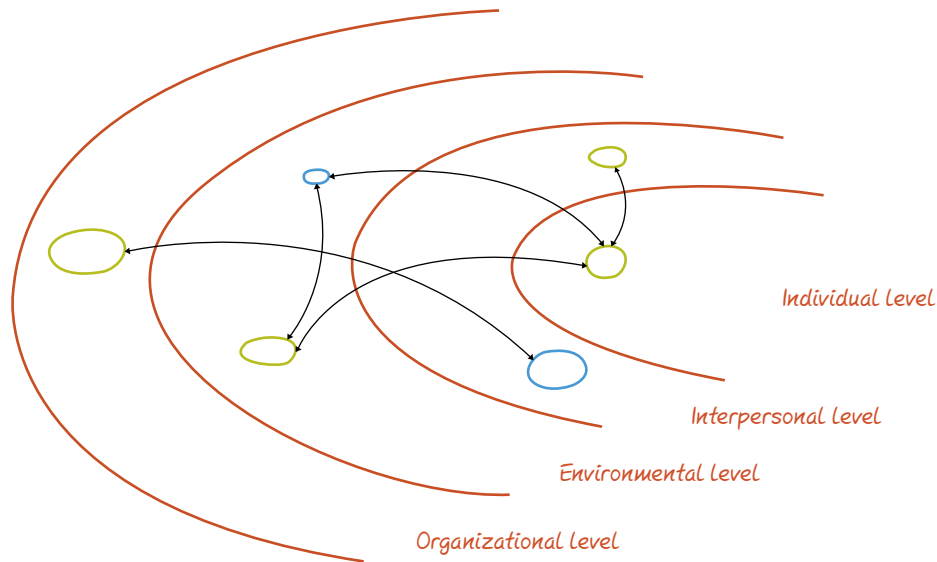
Within the framework of the «Mouv'à l'école» project, a process of co-construction was set up, mainly between the city, the school and the university. The university initiated and followed up the action by allowing interaction between the different stakeholders, trained the teachers and sports educators of the city in order to make the action sustainable and evaluated the effects. Actions were carried out at different levels: students, parents, teachers, canteen timetables, schoolyard layout, etc. The involvement of the management was decisive in continuing these actions once the university had withdrawn.



Characteristic 2 Multi-level, multi-component intervention that adapts to the local context

When looking at whole-school interventions, the most effective and promising are those that intervene on the different levels of the socioecological model (**multi-level**), and that, for each of these levels, use several levers (**multi-component**) (15).

Thus, the actions determined during the co-construction process must be multiple and address the different levels of the socio-ecological model.



Furthermore, these interventions must take into account the characteristics of the pupils and the various actors (teachers, parents, etc.), the realities of the local education system, the environmental context, etc., in order to be **adapted to the realities of the context** and to create the conditions that will allow sustainable behavioural change to emerge.

INDIVIDUAL LEVEL

- **Workshop 1** : Representations, definitions of PA and ST, recommendations, general and personal → PA levels
- **Workshop 2** : Health effects of PA and ST, Behavioural card game
- **Workshop 3** : Measuring energy expenditure
- **Workshop 4** : Reflection on levers and barriers, setting personal / PA and ST goals with the SCORE* / SMART tool
- **Workshop 5** : Assessment and setting up of actions to be carried out at school level

INTERPERSONAL LEVEL

At the teacher level

- **Workshop 1**: Representations, definitions of PA and ST, recommendations, PA levels, health effects of PA and ST
- **Workshop 2** : Presentation of local data and reflection on practices
- **Workshop 3** : training for active breaks and breaking sedentary behaviours with provision of tool-cards*.

ENVIRONMENTAL LEVEL

- Organisation of sports tournaments by pupils
- Organisation of active breaks by pupils
- Organisation of flash mobs
- Participation in a school challenge
- Provision of sports equipment during breaks
- Valuation of the school's green spaces

ORGANISATIONAL LEVEL

At school level

- Inclusion in the school project

At external partners level

- Collaboration with the sport-health centre
- Participation in conferences organized by the university
- Intervention by the French Basketball Federation

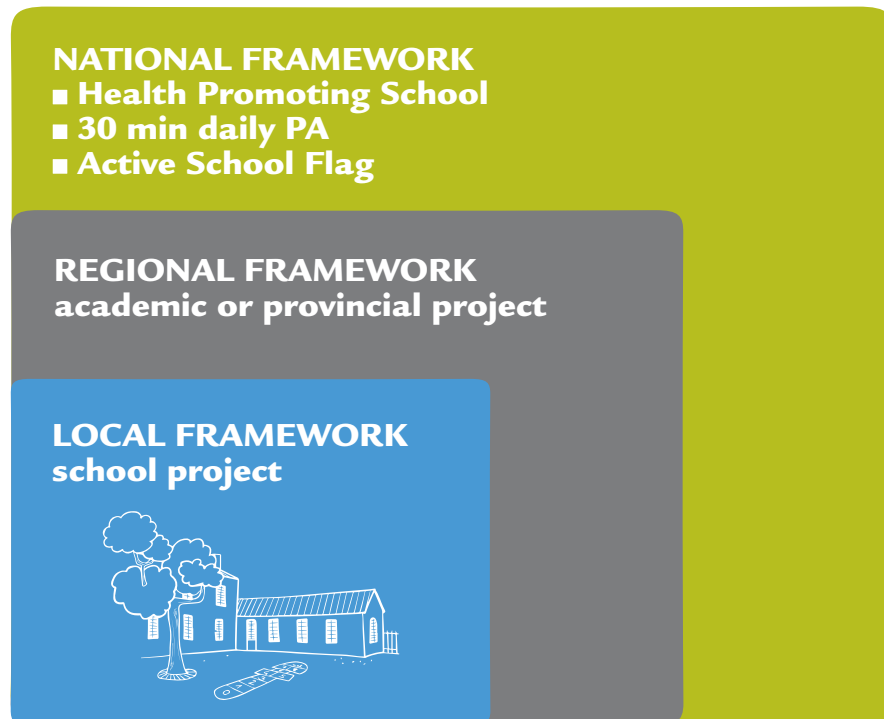
* see toolbox P.13



Characteristic 3 Importance of an institutional framework (national or local)

To optimise the effectiveness and sustainability of interventions, they need to be embedded in an institutional and political framework. This can be local (school project), regional (city or regional initiative) or national (health-promoting school, 30 minutes of daily physical activity). This framework will help to organise, justify, finance if necessary and make the actions visible, provided that its implementation can be adapted to local specificities. By helping to formalise and officialise these actions, the use of an institutional framework facilitates their valorisation and visibility, as well as the obtaining of funding where appropriate.

The use of a label with specifications and monitoring of its implementation is a recurring strategy that can also help to develop a sense of belonging at the level of the institution and more widely to a community.



Active School Flag (ASF) is a national programme in Ireland which is part of the Irish National Plan for Physical Activity and which aims to get «more schools active more often». It identifies four levers that schools will need to act on in order to achieve the ASF flag:

- physical activity,
- physical education,
- local partners (pupils, parents, clubs, communities)
- the active class week.

→ The school should first assess itself on the first three levers through an ASF questionnaire, which allows it to identify its strengths and weaknesses.

→ The school chooses the criteria to be improved, the most adapted to its local specificities, among those proposed by the ASF programme. It also commits to lever 4 (organisation of an active class week).

→ At the end of the process, the ASF label is awarded to schools that meet the «success criteria» chosen in each of the four levers. Establishments must be able to justify compliance with the specifications in order to obtain the label. This monitoring of the process is carried out first remotely and then during a visit to the school by an ASF supervisor.

The ASF label is awarded for three years. Participating schools are supported throughout the process by ASF staff. Obtaining the label usually takes several years and is planned as such. Since its launch in 2009, this programme has reached more than 2,000 primary schools, 678 of which have an ASF label in 2022. The evaluation of the programme after 10 years (16) shows very encouraging results, so much so that its adaptation for secondary schools has begun with SLASF (Second Level Active School Flag). It should be remembered that Ireland has the lowest rate of inactivity among teenagers, and is also the country with the largest decrease in this rate between 2001 and 2016 (1).



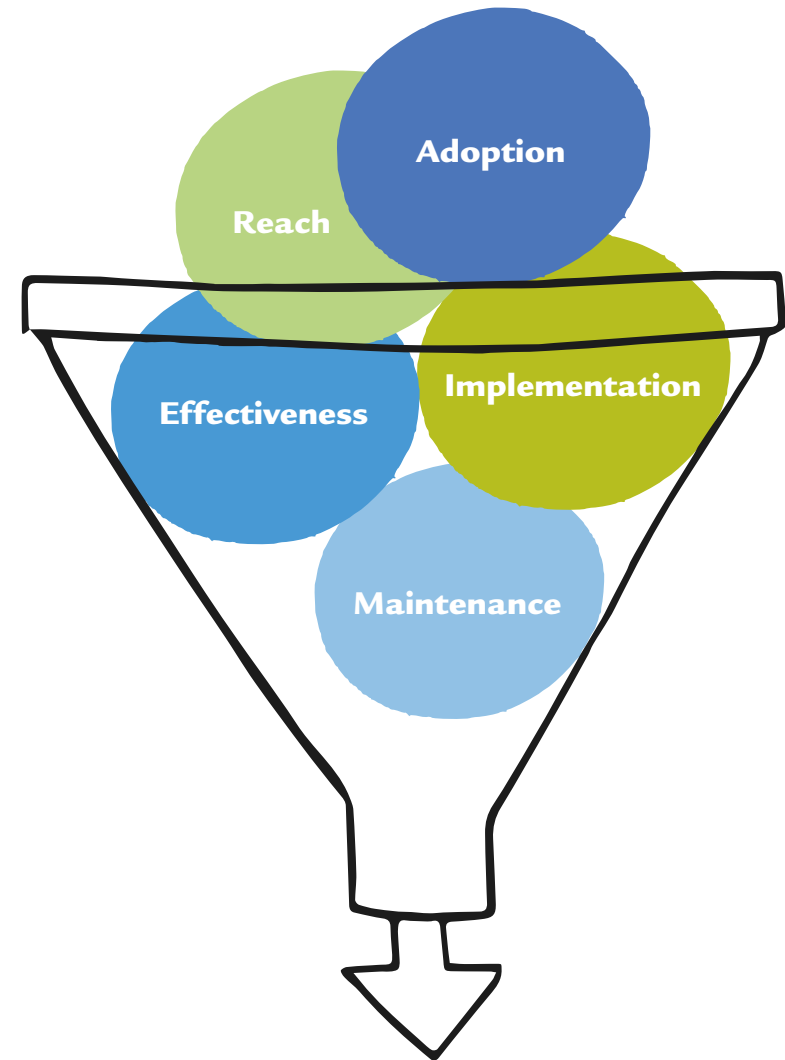
Characteristic 4 Identification of assessment and modelling tools

In order to be implemented effectively, but also to be monitored and sustained, an intervention needs to be evaluated. We often think of evaluating the effectiveness of an intervention through the changes it can produce: levels of physical activity, sedentary behaviour and even levels of physical fitness can be indicators of these changes in habit (see project evaluation guide). But scientific knowledge insists on the importance of also evaluating the whole process by which an intervention takes place. The RE-AIM model (17) is a very useful tool to guide this evaluation.

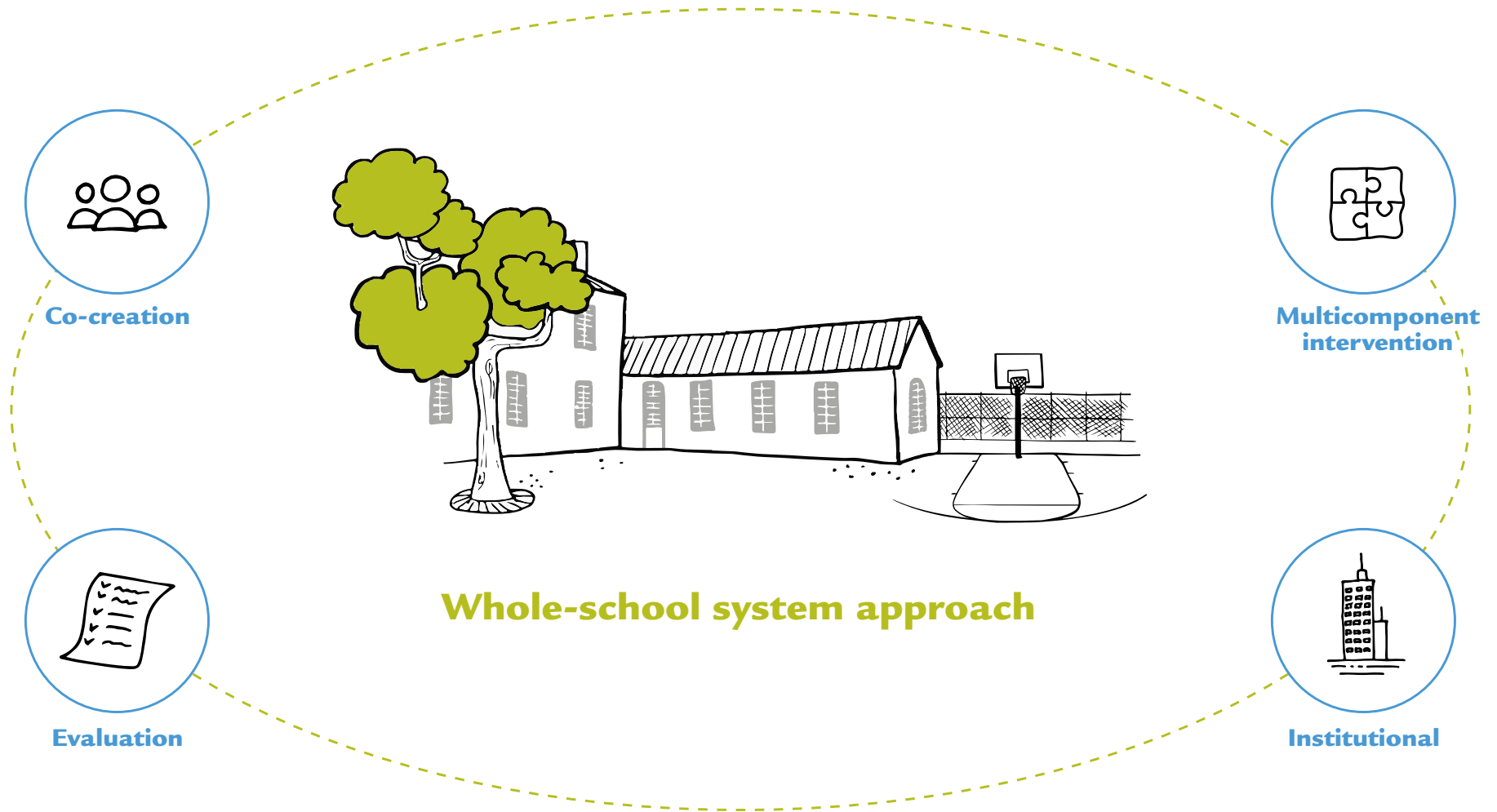


This model will allow the consideration of different indicators:

- **Reach:** how many schools, teachers and/or students are reached by the intervention?
- **Adoption:** what is the proportion of people and institutions that adhere to the proposed actions?
- **Implementation:** to what extent was the planned intervention carried out as planned?
- **Effectiveness:** Is the expected change in behaviour verified?
- **Maintenance:** how sustainable is the intervention over time?



**EVALUATION
of the changes
and the process**





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Tool Box



Download here

INTERVENTION TOOLS



INTERVENTION
GUIDE



INTERVENTION
MATERIALS



INTERVIEW VIDEOS
OF PARTICIPANT'S
REPRESENTATION



CARD GAME
«PROFILE GAME»



GOAL SETTING TOOL



ACTIVE BREAK
CARDS



GRAPHIS FACILITATION TOOLS
(poster production)

EVALUATION TOOLS



EVALUATION
GUIDE



QUESTIONNAIRE TO ASSESS
physical activity and sedentary lifestyle levels
(CAPAS-Q)



SUSTAINABILITY
QUESTIONNAIRE of
intervention (PSAT)



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