



Rethinking schools as a setting for physical activity promotion in the 21st Century—A position paper of the working group of the 2PASS-4Health project

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1 **Title page**

2 **Rethinking schools as a setting for physical activity promotion in the 21st Century – A**
3 **position paper of the working group of the 2PASS 4Health project**

4 **Abstract (130/150 words)**

5 Schools are ideal settings to promote adolescent physical activity (PA), yet school-based
6 interventions have failed to exert any long-term impact. This position paper presents key issues
7 inhibiting school-based interventions. Multi-author expertise and collaborative conceptual
8 thinking through literature reviews, evidence syntheses and online and in-person meetings
9 advanced our opinion. **Key arguments:** 1) the adoption of a systems approach, which
10 maximizes partnership action and leverages policy is crucial for understanding the complexities
11 of implementing whole school programs; 2) a reorientation to an assets approach, with greater
12 emphasis on the full range of physical, cognitive, emotional and social benefits that PA
13 provides, and 3) a move beyond traditional research design to advance our knowledge of what
14 works better, for whom and in what context. We provide suggestions for researchers,
15 specifically advocating for systems approaches, as a realistic way to improve how we support
16 PA in schools in the future.

17 **Keywords:** Adolescents, whole school programs, systems approaches, partnerships, assets
18 approach

19

20 **Introduction**

21 The benefits of physical activity (PA) are widely understood in the research community.
22 Regular engagement in PA affords multiple physical, cognitive, emotional and social benefits
23 (Pesce et al., 2016). Yet, despite an increasing body of research output, worldwide progress to
24 increase PA has been slow, largely due to lack of awareness and investment (World Health
25 Organisation (WHO) 2019). Proportions of school-aged children meeting guidelines of on
26 average 60 min of moderate-to-vigorous PA daily remain persistently low, with no meaningful
27 progress being made for girls or boys across low-, middle- and high-income countries (Aubert
28 et al., 2018; Guthold et al., 2020).

29 Schools are settings, in theory, ideally placed to provide children and adolescents with
30 opportunities during, before, and after school hours to meet a substantial part of current
31 international PA guidelines, while also giving them the necessary tools to be autonomously
32 active across the lifespan (van Sluijs et al., 2021). To this end, a whole-school approach is
33 currently recommended as the gold standard of practice, consistent with the principles of the
34 WHO and United Nations Educational, Scientific and Cultural Organization initiative *Making*
35 *Every School a Health Promoting School* (WHO & UN2020). A whole-school approach
36 involves prioritizing and promoting PA to the entire school community through supportive
37 policies, environments and opportunities (Milton et al., 2021). Schools are seen as a universal
38 context to access and influence all children, however, the potential of school-based
39 interventions to positively impact children's PA behaviour remains unfulfilled or uncertain at
40 best (Love et al., 2019; van Sluijs et al., 2021; Rodrigo-Sanjoaquin et al., 2022).

41 In the context of an Erasmus+ Sport project called Promoting PA at Secondary Schools for
42 Health (2PASS-4Health; project number 622733-EPP-1-2020-1-FR-SPO-SCP) we used the
43 following process to elaborate this position paper. We conducted multi-author expertise and

44 collaborative conceptual thinking through literature reviews, evidence syntheses and online
45 and in-person meetings to advance our opinion. As a result of this group reflection, we propose
46 that greater attention to key issues is needed to fully realize the potential of schools as an ideal
47 PA promotion setting. These issues include 1) a systems approach, including the role of
48 partnerships and policy, 2) an assets perspective, and 3) the nature of evidence required to
49 bridge the evidence and implementation gap, sustain and scale-up school-based innovations
50 and solutions to address inactivity. We provide case study examples of school-based
51 interventions that align, in part, to a systems approach across three EU countries.

52 **1) A systems approach to PA promotion in schools**

53 The Global Action Plan for PA (GAPPA) advocates for a systems approach, indicating that a
54 comprehensive, integrated and inter-sectoral effort is needed to increase population levels of
55 PA (WHO, 2019). The social ecological model points to a multi-level response that addresses
56 personal, environmental, and policy factors acknowledging the interconnectedness between the
57 individual and their environment (Sallis et al., 2006). In brief, no single solution has been
58 effective in addressing physical inactivity to date, consequently a complex systems model of
59 public health which conceives issues such physical inactivity, irrespective of context, as
60 requiring multiple interdependent factors within a connected whole may hold promise (Rutter
61 et al., 2017). This approach acknowledges the complexity and non-linearity of PA behaviour,
62 its multiple influences and the importance of the connections, interactions and feedback
63 between intervention levels and components (Allender et al., 2015; Peters, 2014; Rutter et al.,
64 2019; Rutter et al., 2017). This approach would aim to corral key stakeholders relevant to the
65 school setting to make their actions and efforts coherent in a way that addresses the complexity
66 of PA promotion for all children in their school.

67 Much of the work that is undertaken in schools to promote PA does not take a systems approach,
68 rather most of the intervention literature describes single-component interventions (e.g.
69 changing aspects of physical education only or focusing only on change at the individual level)
70 (Borde et al., 2017; Jones et al., 2020). Many of these interventions operate within a
71 reductionist and deficit paradigm, aiming to change certain elements of the system (e.g., they
72 may be pertinent to first year students only, or they may focus on individuals reducing
73 sedentary behaviour over a 6-week period). This fragmented approach, relies on isolated, often
74 topic- and target group-specific activities/strategies in the school setting. The systems approach,
75 we believe, provides another lens within which to analyze the inactivity challenge among
76 school children. It provides a framework to help examine the factors involved in the problem,
77 recognising that actions should be integrated across political, societal, cultural, economic and
78 scientific domains (Rutter et al., 2019), and that these domains are inherently linked to each
79 other. We believe this enhanced understanding of the context within which school-based
80 interventions take place; is crucial to overcoming current limitations in this area.

81 Different frameworks that align with the systems-based approach exist in the literature and are
82 available for those who want to promote PA through a systems-based rather than a fragmented
83 approach. The Health Promoting Schools (HPS) approach emerged as a holistic intervention
84 strategy aligned with the principals of the Ottawa Charter for health promotion (WHO 2017).
85 The HPS approach stands in contrast to the fragmented approach and works best when
86 developed from within schools and the educational system (Dadaczynski et al., 2020).
87 Conceptually similar, the ‘whole-school approach’ provides another example of a framework
88 for action that identifies the multiple levels and components required to establish schools as a
89 complex sub-system (Milton et al., 2021). This facilitates comprehensive, coordinated PA
90 intervention design and implementation by engaging all relevant stakeholders to co-create
91 supportive social, physical and policy environments and drive change at the system level

92 (Gamble et al., 2017). Daly-Smith and colleagues (2020) developed the Creating Active
93 Schools (CAS) framework using a systems approach to provide clarity on the components of a
94 whole school concept. This framework conceptualizes the school as a complex adaptive
95 system where an “active school” is central to the school’s beliefs, customs, and practices that
96 drive school policy.

97 However, the application of systems science principles in school settings is not without its
98 challenges. It is necessary to have a sufficient understanding of systems thinking and the
99 process of generation and application of new knowledge to foster system improvement (Rosas,
100 2017). This requires understanding contextual factors relevant to the school system. All
101 individuals within the school setting and in a role that either directly or indirectly influences
102 PA are important to the systems approach. In addition, information on the schools’
103 demographic profile, its’ built and policy environments, its’ facilities, equipment and level of
104 staff training, the interest of students and the schools’ priorities in relation to PA are all
105 important parts of a systems approach. To understand how the different parts of, and people
106 within the system may relate to one another, Allender and colleagues (2015) recommended
107 developing a “systems map” or a visual depiction of the system. This would involve engaging
108 all key stakeholders in the process, and through an iterative approach, build and revise maps to
109 better understand the system within their school. This can lead to a better communication
110 between, and an enhanced understanding of, the different actors and actions and their reciprocal
111 interactions relevant to the promotion of PA within a school setting (Rutter et al., 2019). This
112 approach can also help stakeholders understand why the school system functions as it does to
113 promote PA (or to maintain physical inactivity), and to identify modifiable points within the
114 system, key levers for change, that if amended could lead to better opportunities for increasing
115 population levels of PA throughout the whole school.

116 **The importance of leadership to PA promotion in schools**

117 One of the guiding principles of the GAPPa incorporates a call for “partnerships for action” to
118 foster collaboration across and between stakeholders at all levels of the systems and sub-
119 systems involved in the vision of achieving the multiple benefits of a physically active world
120 (WHO 2019). Similarly, the International Society for PA and Health’s (ISPAH) ‘Eight
121 Investments that Work for PA’ (Milton et al., 2021) and their ‘Toronto Charter for PA’ (GAPA
122 & ISPAH 2010) urge PA promotion actors to move away from isolated interventions in their
123 respective silos, to collaborative, cross-sectoral efforts e.g., schools, health, transport, sport,
124 community services and so on.

125 The sustainability of a systems-based approach to PA promotion requires appropriate
126 governance (Milton et al., 2021). In schools, a key governance factor contributing to the extent
127 of implementation of PA, or other health initiatives, is the presence of visible, competent and
128 supportive leaders, which in some cases need to be appointed and trained for such purposes
129 (McMullen et al., 2022; Webster et al., 2015). Storey et al. (2016) found that supportive school
130 principal involvement for the implementation of a comprehensive school health approach
131 included prioritizing the initiative in the school’s agenda, actively serving on the
132 implementation team, and being an advocate and role model for the initiative. How to get
133 administrator ‘buy in’ and support for school-based PA promotion initiatives, including how
134 to change the school ‘ethos’ (Lee & Welk, 2019), should be a priority on researchers’ agenda
135 (Haerens et al., 2007).

136 However, consistent leadership and management structures alone are insufficient to achieve a
137 systems approach. Partnerships, both within and outside of the school community, working
138 in complementary, synergistic ways is necessary to improve the system and ultimately increase
139 levels of PA for children in the school setting. This involves internal and external partnership
140 supports, adequate resources, opportunities for professional development and supportive
141 policies help realize a systems approach (Rosas, 2017). The creation of a systems map

142 (described earlier) will help to clarify who should be involved and delineate roles and
143 responsibilities for program success.

144 **The role of policy for PA promotion in schools**

145 Among the wide range of potential solutions that have been identified to address the inactivity
146 challenge, there is increasing recognition of the importance of upstream or policy responses
147 (Lakerveld et al., 2020). Fittingly, the role of policy is to change systems rather than individuals,
148 to create supportive contexts in which programs and environments jointly promote health.
149 Policy interventions should not be confounded with other types of program or environmental
150 interventions; rather, policy interventions create the framework where programs or
151 environmental changes are tendered, developed, funded, or implemented (Gelius et al., 2020).
152 Several strategic documents advocate for the use of policy as an instrument to promote health
153 within the school setting, while providing a useful conceptual starting point for understanding
154 the potential direct and indirect effects of policy on PA. Recently, Woods et al. (2021) provided
155 the first systematic attempt at reviewing and assessing the evidence for the impact of school
156 policy on PA outcomes. The policy areas for which the authors found evidence of impact on
157 PA were physical education (PE), school sport, classroom-based PA, active school breaks, and
158 shared use agreements. However, they pointed out that the range of policy options implemented
159 and evaluated in the school setting remains limited and requires additional research attention.
160 Providing children and adolescents with meaningful opportunities to be physically active
161 through policies implemented in the school setting is an area ripe for applied and conceptual
162 work.

163 Examples of upstream policy responses are observed across many countries, including the five
164 2PASS-4Health countries. In the Portuguese secondary school system for example, PE is a
165 mandatory core subject, has a minimum duration (timetabled for 150-minutes per week), key

166 curricular content - two team-sports, one gymnastic, one expressive rhythmic activity and two
167 of athletics, skating or rackets and others – and contributes to accessing University. There are
168 three levels for each curricular content: Introductory, Elementary and Advanced. Students shift
169 from the Introductory to the Advanced level in all the sports taught from the 10th- 12th years
170 building their knowledge related to the interpretation and participation in social structures and
171 phenomena outside school in which PA is carried out.

172 **2) An assets perspective to PA promotion in schools**

173 Approaches to the promotion of health are often based on a deficit or risk model, emphasizing
174 patterns of ill-health and diseases, their prevalence and how to treat and/or avoid the diseased
175 condition through the design of effective interventions (McCuaig et al., 2013). Applied to the
176 school context, this approach involves emphasizing the harms of physical inactivity and how
177 inactive our children are. Conversely, salutogenic health theory, first proposed by Antonovsky
178 in the late 1970's, is an asset approach where the focus is on resources for health and well-
179 being. The model suggests that a strong sense of coherence – shaped by life experiences – helps
180 one mobilize resources available (Mittelmark & Bauer, 2017). A salutogenic approach aims to
181 focus on all people in the system (and not only those at risk), while addressing and promoting
182 'salutary' factors (and not only remove risks) (Boonekamp et al., 2021). Translated to the
183 school context, an assets approach involves helping students and staff recognize and focus on
184 their available resources, including their abilities, experiences, places, and networks of support
185 with respect to being active (Boonekamp et al., 2021). Arguably this approach has not been
186 sufficiently maximized in research and policy to date in the PA promotion space and more
187 specifically in school-based contexts (Sagy, 2014). Linked to this strength-based approach to
188 health promotion, is the perspective that PA should be viewed as a right. Children's right to
189 play - and be physically active - is enshrined in the UN Convention on the Rights of the Child
190 (UNCRC) (UN & Childrens Right's Alliance2013) and indeed is considered as one of the most

191 innovative aspects of the UNCRC (Davey & Lundy, 2011). Pesce et al. (2017), echoing a
192 Swahili proverb, eloquently argue that we should “hitch the plough of PA promotion to the
193 child’s right to play and to be physically active”; and that this should not merely be
194 operationalized as health-enhancing amount of PA, but as ‘thoughtful moving’ implemented
195 within multi-sectoral contexts as enjoyable free play and deliberate activity.

196 **Case study examples of a systems approach in action**

197 Nobles and colleagues (2021) developed the Action Scales Model (ASM), a simple tool to help
198 stakeholders conceptualize, identify and evaluate actions for change within complex adaptive
199 systems. In brief, the ASM describes four levels of influence on how a system functions:
200 events, structures, goals and beliefs. Within these levels, leverage points on which to intervene
201 to change the system can be identified. The deeper levels –goals, beliefs- providing greater
202 challenge but also more potential to achieve real change in how the system functions and in
203 turn, the main outcomes of the system. *Events* describe the observable behaviors and outcomes
204 that result from the system working as designed. In our case, students may spend considerable
205 time sitting and being insufficiently active as part of their regular school day. Physical (e.g.,
206 built environment), relational (e.g., relationships, rules) and informational (e.g., information
207 flows) *structures*, in turn, cause events to occur. For example, lack of appropriate facilities
208 combined with inefficient communication regarding the existence and importance of policies
209 to support PA through the school day may hinder efforts to increase the time students are
210 physically active during regular school hours. *Goals* describe the targets that the system aims
211 to achieve, influencing how the system is structured and, consequently, how it works and the
212 outcomes it produces. Back to our example, the explicit goal of an ‘active’ school may be to
213 provide sufficient opportunities for students to be physically active throughout the school day.
214 However, the school may not be taking the necessary steps to realize these aspirations,
215 underlying the important distinction between ‘stated’ goals and ‘observable’ goals (Nobles et

216 al., 2021). The final level of the ASM, *beliefs*, captures the values, norms or attitudes of
217 individuals within the system, particularly those with influence and power, which are in turn
218 reflected in the system goals. In our example, goals related to PA and sitting time may not be
219 sufficient ambitious because the school leadership may not consider PA, and student health, as
220 important enough in the context of other school priorities. Table 1 provides details on the
221 application of the ASM to present three case studies across three European countries –Ireland,
222 France and Spain- as examples of interventions aligned to the systems approach with varying
223 levels of success.

224 1. In Ireland, the second level Active School Flag (ASF; <https://activeschoolflag.ie/>)
225 program aims to increase adolescent PA by creating an active school through providing
226 opportunities for student voice and leadership in PA (ages 12-18 years) (Ng et al., 2019;
227 McHale et al., 2022). ASF is an initiative of the Department of Education and was
228 developed using a co-designed approach with students, teachers, parents and the local
229 community. The multi-level, multi-component program is led by senior students in their
230 fourth year (aged 16 years) who are guided by two ASF coordinators (teachers) and a
231 whole-of-school approach (Figure 1). Each school completes a needs assessment
232 (survey) at the start of the school year, and the results are used to inform the schools
233 action plan to promote PA for that year. There are three stages to achieving the ASF: i)
234 Try it out (assesses readiness to engage with the program), ii) Certificate (focus on
235 improving PA within the school environment) and iii) Flag (focus on improving PA in
236 the community). A set of criteria is used to determine a schools' progression from one
237 stage to the next stage, and currently 28 secondary schools are engaged in ASF. The
238 process of completion of the ASF program and awarding of the flag can take from 3-5
239 years but is ultimately flexible to the schools' requirements.

- 240 2. The French Mouv à l'école (Move at school) intervention aims to evaluate the
241 effectiveness of a school-based intervention designed to promote PA and reduce
242 sedentary time of children (6-10 years old) from two schools recruited in a
243 disadvantaged neighborhood (Bernal et al., 2021; Bernal et al., 2020). This multi-level,
244 multi-component intervention offered five workshops to children to help them
245 understand the intervention. Researchers also trained the teachers on active classrooms,
246 sedentary breaks and educated them to the challenges regarding PA and sedentary
247 behaviour. Researchers proposed to the city hall some changes to improve the daily PA
248 and reduce sedentary time levels (changes in lunchtime, drawings in the school yards).
249 Workshops with city sport educators were also conducted so that interventions can be
250 sustainable and duplicated in other schools.
- 251 3. The Sigue le Huella (Follow your footsteps) intervention in Spain seeks to involve all
252 school actors (e.g., students, administrators, teaching and non-teaching staff, parents)
253 in the creation of favorable environments for PA and empowering students to become
254 actively involved in the design and implementation of activities and manage their own
255 PA behaviour (Figure 2) (Murillo Pardo et al., 2019). A multisectoral advisory group,
256 including all main actors involved in PA promotion in the city, provided feedback on
257 the intervention. A member of the research team (facilitator) led and coordinated the
258 intervention. The facilitator fostered a collaborative approach in which working groups
259 of students, teachers, and parents participated in the design, implementation and
260 evaluation of the intervention. Intervention strategies adopted curricular and
261 extracurricular channels. The curricular channel included weekly hourly tutorial action
262 sessions in the classroom and during PE classes. The extracurricular channel involved
263 information dissemination activities for the broader community and participation in

264 programs and special events sponsored by institutions or organizations outside the
265 schools.

266 [INSERT FIGURE 1 HERE]

267 [INSERT FIGURE 2 HERE]

268 [INSERT TABLE 1 HERE]

269 **3. Nature of evidence needed to bridge the implementation gap, sustain and scale-up**
270 **innovations and solutions**

271 To date, the evidence behind responses to public health challenges, like physical inactivity,
272 have largely been generated by methods that were developed to answer questions about the
273 effectiveness of clinical interventions, and as such are grounded in linear models of cause and
274 effect not necessarily sensitive to context nor complexity (Rutter et al., 2017). While existing
275 approaches and models to generate and use evidence in public health remain necessary, a shift
276 in thinking is required to consider the conditions that drive system change. From this
277 perspective, the focus shifts from whether interventions work to fix problems, to how they
278 contribute to reshaping a system in intended ways and to establishing the conditions in which
279 change can emerge (Rosas, 2017; Rutter et al., 2017). This requires rethinking research design,
280 methods, tools and application.

281 Evaluation designs should be informed by the intervention itself (Jago et al., 2023), rather than
282 the other way around. In fact, the latter, in the form of natural experiments, is often the only
283 way to generate meaningful evidence regarding population health and complex interventions
284 (e.g., whole-of-school programs). These types of designs should be embraced along with
285 diverse types of evidence from pragmatic, yet robust, evaluations (Ogilvie et al., 2020). The
286 UK Medical Research Council have recently published guidance for complex interventions
287 which recognizes the wide range of designs beyond randomized controlled trials (Skivington
288 et al., 2021). Notably, realist evaluation and synthesis principles and techniques have shown

289 promise to understand how programs work, for whom, and in which contexts/circumstances
290 (Cardon & Salmon, 2020; Jagosh, 2019). Realist principles could be used in combination with
291 several mixed methods strategies to integrate quantitative and qualitative data which offer
292 researchers ‘a world of possibilities’ to understand in greater depth the often-complex topics
293 under study (Pluye et al., 2018). Finally, a co-creation approach in which there is an equitable
294 partnership between the target group, stakeholders and researchers is also believed to take the
295 complex influence of real-world factors into account to bridge the implementation gap (Cardon
296 and Salmon, 2020; Leask et al., 2019). Currently, researchers are advancing in providing
297 principles and recommendations on how to apply co-creation in health promotion research
298 (Leask et al., 2019) and in developing an evidence-based co-creation methodology (Verloigne
299 et al., 2023), which will be beneficial for school PA research as well.

300 **Conclusions/ future directions**

301 There is consensus that urgent action is needed to address the inactivity pandemic that affects
302 children around the world, and that schools represent an ideal setting for intervention as they
303 reach majority of children who spend a substantial amount of time in this setting. We believe
304 that the greatest progress is likely to occur through interventions that are effective in changing
305 the system, rather than focusing on the individual. In this paper, we argue that a systems
306 approach, one within which PA interventions are effective in the real world, implemented at
307 scale, tailored to contextual requirement and fully embedded within existing structures, are
308 most likely to sustain over time. Yet, evidence of this is limited. Reliance on the traditional
309 research methods and designs will not yield the evidence required to advance the field. A
310 paradigm shift from the fragmented intervention to a whole-of-school approach is necessary to
311 achieve real change over the next decade.

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Whole School Process



Figure 1. Diagram showing the key stakeholders involved in the ASF programme with the implementers at the center

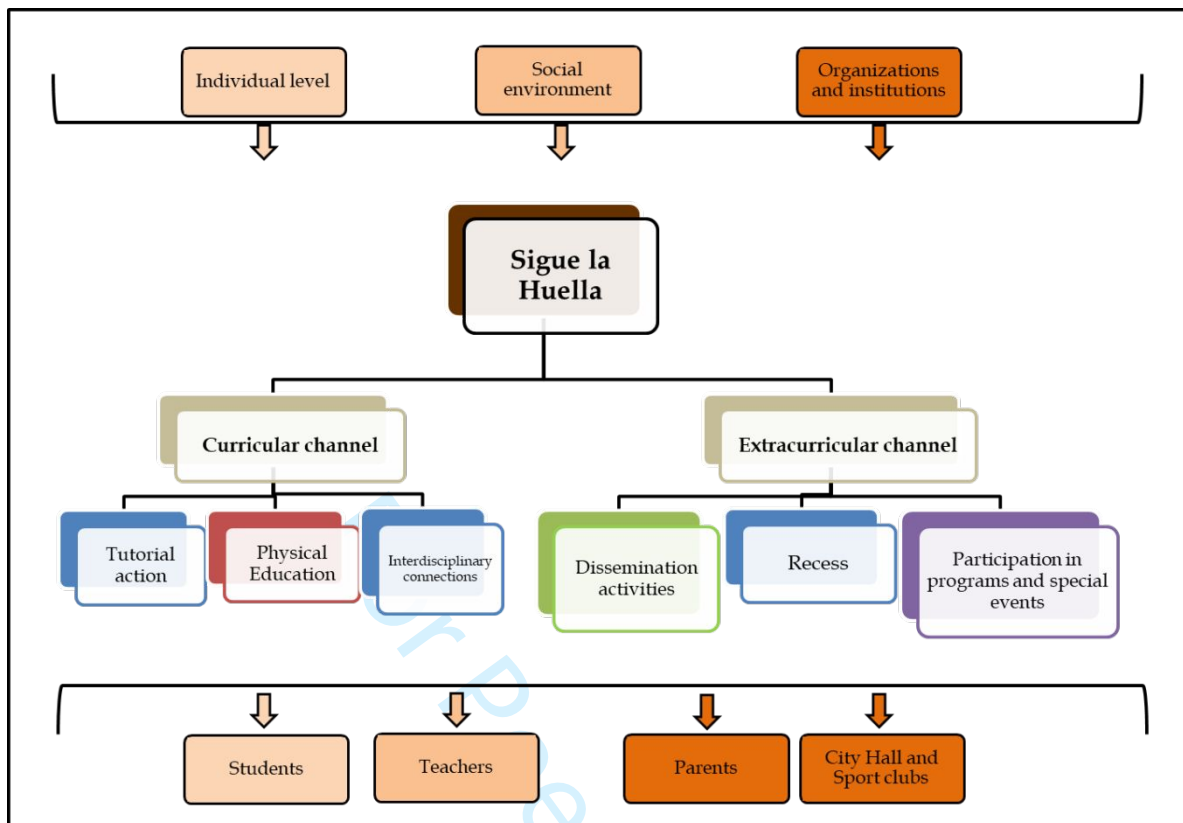


Figure 2. Diagram of the key stakeholders and components of the Sigue la Huella intervention

Table 1. Case study examples of school-based programmes utilising a systems approach broken down into the four levels of the Action Scales Model (Nobles et al., 2021)

		Level of ASM (example provided by Nobles et al., 2021, page 333)			
Initiative (Age Range)	Location	Level 1: Event (Behaviours and outcomes that can be observed e.g. Provide cycling training to school children)	Level 2: Structures (Underlying structures and patterns that cause events to occur e.g. Assess and improve the physical infrastructure for walking and cycling to school)	Level 3: Goals (Goals, targets ambitions that the system wants to achieve e.g. Schools work with parents and the community to set a shared goal to reduce short care journeys by 20% in next 5 years)	Level 4: Beliefs (Deeply held beliefs, norms, attitudes and values of individuals, organisations within the systems e.g. Create a working group to champion and promote active transport to school to senior leaders in the council).
Active School Flag for Second Level (12-18 year olds)	Ireland	Whole school survey (maximises student voice and directs actions).	A timetabled ASF class for students to facilitate programme implementation.	The aim of the ASF programme is to create more opportunities for adolescents to be physically active, to empower student voice and enable student leadership over a 3–5-year period.	Readiness to engage with the ASF programme is assessed with Senior Management, School Implementation Teams, and resources/training provided to maximise this prior to undertaking the programme.
		Whole-of-school events (e.g. Active School Week with multiple PA opportunities and events). An active school walkway developed and implemented.	2 ASF school coordinators (teachers) A wider ASF staff implementation team. ASF national team consisting of multi-sectoral stakeholders.		
		Evaluation: Schools must meet a pre-set criterion on	Evaluation: Schools must meet a pre-set criterion on	Evaluation: Using their ASF survey	Evaluation: Schools must meet criteria to determine

		<p>number of events carried out each year, type of event is flexible. Successful completion required to progress to next stage of ASF.</p> <p>This is on a continuous scale from minimum (Try-it-out; stage 1) to maximum (Flag; stage 3). This is evaluated on an annual basis by the ASF national team and steering group.</p>	<p>infrastructure prior to commencing ASF.</p> <p>This is on a continuous scale from minimum (Try-it-out; stage 1) to maximum (Flag; stage 3). This is evaluated on an annual basis by the ASF national team and steering group.</p>	<p>results, schools develop a bespoke Action Plan unique to their school, with specific aims, targets etc. to increase PA opportunities in their school</p> <p>The ambition of the goal/targets increases on a continuous scale from minimum (Try-it-out; stage 1) to maximum (Flag; stage 3). This is evaluated on an annual basis by the ASF national team and steering group.</p>	<p>their readiness to engage with the ASF programme, each school needs to meet the criteria to progress to the next stage of the programme.</p> <p>The ‘beliefs’ re: ASF increase from minimum (Try-it-out; stage 1) to maximum (Flag; stage 3). This is evaluated on an annual basis by the ASF national team and steering group.</p> <p>A qualitative inquiry into the beliefs and values of the systems architects and those affected by systems change should be conducted.</p>
<p>Sigue La Huella (Follow your Footsteps)</p>	<p>Spain</p>	<p>Curricular and extracurricular strategies aimed to improve physical activity levels.</p> <p>Weekly tutorial sessions addressed to empowering students, recess auto-dynamization.</p> <p>Active school week</p>	<p>The multisectoral group of experts constitute the main structure of the intervention.</p> <p>Different working groups of students, teachers and parents also participate into the design of the intervention.</p>	<p>The objective of Sigue La Huella is to empower student voice and enable them to auto-organise and active lifestyle.</p>	<p>Different stakeholders are involved in Sigue la Huella. A multisectoral group participates in periodical meetings to provide advice on programme design and implementation. These include representatives from city and regional agencies and services in the areas of health, education, youth, physical activity and sports. Researchers from the</p>

		Participation in programs or special events out of the school.			University and school actors are essential actors in this adaptive system.
		Evaluation: The school conducts an evaluation of adolescent's PA levels during the final global active school week.	Evaluation: The school must make a reflective process at the end of the year about how these groups are organised or arranged.	Evaluation: The school conducts an evaluation of adolescent's perceptions from a quantitative and qualitative point of view.	Evaluation: A qualitative inquiry into the beliefs and values of the systems architects should be conducted.
Mouv à l'école (Move your way)	France	<p>5 workshops to children, 1 workshop to the parents.</p> <p>Researchers train teachers on active classrooms, sedentary breaks activities.</p> <p>Researchers educated teachers on the challenges of PA and sedentary behaviour.</p> <p>Researchers proposed changes to the city hall to improve daily PA and reduce ST (changes in lunchtime, drawings in the schoolyards).</p>	<p>The actions proposed are discussed between stakeholders (i.e., children, researchers, school staff, city staff of Tarbes).</p> <p>Teachers assisted by researchers organize the implementation within each of the schools. The formation and the implication of the PE teachers allow the extension of this intervention to other schools of the city (i.e. they become the leaders of it). Doctoral student as supervisor of the project</p> <p>Principal, teachers, doctoral student as committee to</p>	<p>The aim of "Mouv' à l'ecole" is to enable the different stakeholders (teachers, school direction, students, parents, PE teachers, lunch service, afterschool carers) to create the conditions to increase PA and decrease ST in a sustainable way within a school context.</p>	<p>The representation of the different stakeholders on PA and ST levels, the importance of PA and the link between PA, attention and academic success were challenged and led to evolve. Researcher workshops with city hall members helped technicians and local policymakers to develop a common view of challenges and issues dealing with PA and sedentary behaviour.</p> <p>Workshop with teachers helped them to realise they could effectively be a part of the solution and enhanced their own confidence in changing their class habits.</p>

		Workshops were held with city PE teachers to ensure sustainability and repeatability of the intervention.	define which change could be done in school		
		Evaluation: Attendance at workshops, quantitative evaluation of PA and ST levels as well as physical fitness and motor skills evaluation pre and post intervention as well as long term	Evaluation: number of schools ready to engage in this project. Within the school, number of actions engaged to increase PA and decrease ST as well as their degree of sustainability	Evaluation: The project should be evaluated through a process evaluation	Evaluation: A qualitative evaluation of teachers opinions of the intervention effects and efficacy. This qualitative evaluation could be extended to different stakeholders