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## PROMOTING PHYSICAL ACTIVITY AND SOCIAL INCLUSION IN CHILDREN AGED 6-12: A MULTINATIONAL ANALYSIS OF NEEDS IN EUROPE

VAN HERPEN NOUD<sup>1</sup>, MOLITERNI STEFANO<sup>2</sup>, BATALHA NUNO<sup>3 4</sup>, GIDU DIANA<sup>5</sup>, ENE-VOICULESCU CARMEN<sup>5</sup>, SHARAFAN DARIYA<sup>6</sup>, RENZI COSIMO<sup>7</sup>, TARLUNGEANU GEORGIANA<sup>8</sup>, TITOUAN SEBY<sup>9</sup>, WIĄCKIEWICZ PIOTR<sup>10</sup>, OLTEAN ANTOANELA<sup>5</sup>

### Abstract

*Aim.* The PLAYS (Practical Learning to Advance Youngsters in Sport) project is a European initiative designed to promote physical activity among school-aged children by integrating active play into recess and after-school programs. According to the World Health Organization (WHO) Guidelines on Physical Activity and Sedentary Behaviour (2020), children and adolescents aged 5–17 should engage in at least 60 minutes of moderate- to vigorous-intensity physical activity (MVPA) daily to foster optimal health. Despite this, many children across Europe are not meeting these recommendations, contributing to a rise in sedentary lifestyles and childhood obesity.

The aim of the study is to support children aged 6 to 12 across different EU countries in practicing sport through a playful approach, not only to promote healthy physical and mental development but also to foster inclusion and adaptation to diverse social and environmental contexts. Additionally, the study seeks to empower parents, caretakers, and TEAM members to encourage children's participation in regular physical activity for enhanced mental well-being.

*Methods.* The PLAYS project, involving Austria, France, Italy, Poland, Portugal, Romania, and The Netherlands, conducted a comprehensive needs analysis through the development and distribution of a survey via Survio (or equivalent tools used by local partners) to key target groups, including parents/caretakers, teachers in training, sports club coaches, and TEAM members (trainers, educators, affiliates, and mentors), which resulted in 500 responses that were analyzed by SSNB and shared with partners.

*Results.* Surveys conducted among over 500 parents, coaches, and teachers in these countries, most of whom are between 31 and 50 years old, revealed widespread recognition of the importance of physical activity for children's development.

*Conclusions.* PLAYS aims to harness this awareness by promoting regular, enjoyable physical activities that can encourage healthier lifestyle habits in children from an early age.

*Keywords:* PLAYS, physical activity, youngsters, survey, european project

### Introduction

The PLAYS project is an initiative aimed at increasing physical activity levels among school-aged children through the promotion of active play during recess and after-school activities.

The World Health Organization (WHO), in the Guidelines on physical activity and sedentary behaviour (2020), recommends that children and adolescents (aged 5–17 years) should do at least an average of 60 minutes per day of moderate- to vigorous-intensity physical activity (MVPA) across the week. In fact, to start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time, it's considered as a good practice to prevent cardiorespiratory, musculoskeletal and cognitive functions diseases.

The WHO European Childhood Obesity Surveillance Initiative has already shown that in some EU countries more than 40% of children are overweight and approximately 25% are obese. This pattern also continues into adulthood with more than 50% of adults being overweight in most European countries (Wijnhoven, van Raaij, Spinelli, et al. 2014).

The European Commission, in the Special Eurobarometer 412: sport and physical activity (2014), has provided figures from EU countries indicating that 6 out of 10 people above 15 years of age never or seldom exercise or play any sports, and more than half never or seldom engage in other kind of physical activity. And yet, it has been shown that it is essential to focus on the long-term involvement in physical activities and sport of both genders. Indeed, those who

<sup>1</sup> Stichting Sportservice Noord-Brabant, Eindhoven, Netherland

<sup>2</sup> European Culture and Sport Organization, Rome, Italy

<sup>3</sup> Departamento de Desporto e Saúde, Escola de Saúde e Desenvolvimento Humano, Universidade de Évora, Évora, Portugal

<sup>4</sup> Comprehensive Health Research Centre (CHRC), University of Évora, Évora, Portugal

<sup>5</sup> Ovidius University of Constanta, Romania

<sup>6</sup> International Workers and Amateurs in Sports Confederation, Wien, Austria

<sup>7</sup> Associazione Italiana Cultura e Sport, Italy

<sup>8</sup> Asociația Centrală pentru Dezvoltarea Instrumentelor Structurale, Romania

<sup>9</sup> Nova Child, France

<sup>10</sup> Fundacja Innowacji Dla Sportu Verde, Poland

Corresponding author: Oltean Antoanela – olteantoanela@gmail.com

report to be involved in sport and/or physical activities from a young age and through their teenage years, also tend to report higher involvement and participation in physical activities throughout their lifetime.

The increase in the sedentary nature of children and adolescents raises alarm. Only 34% of European adolescents aged 13 to 15 years are physically active at the recommended levels. This contributes to the rise of overweight and obese children in Europe, especially among the weakest socio-economic groups.

Based on the data collected by the "Childhood Obesity Surveillance Initiative (Wijnhoven, van Raaij, Spinelli, et al. 2014), conducted in Europe by the WHO, almost 50% of children aged 8 are overweight and over 25% are obese.

In almost all European countries, levels of physical activity begin to drop significantly between eleven and fifteen years of age.

Regarding the partner countries involved in the project, more detailed needs analyses of each nation are described below.

Just two hours of physical education (PE) are mandatory in Romanian schools, and one optional hour of play and movement or physical education per week is offered in primary and secondary schools, except in grade 8, when only 1h is mandatory. In grades 3 and 4 of primary school (pupils aged 8—10 years), physical activity is mandatory for 3 hours per week. This is split into PE for 2 hours and 1 hour of play and movement. In grades 1 and 2 (pupils aged 6—8 years) physical activity is mandatory for 2 hours per week, with 1 optional hour of play and movement. In secondary schools, it is mandatory to offer 2 hours of PE per week for grades 5, 6 and 7 (pupils aged 10—13 years), and there is also 1 optional hour per week of PE for all grades.

Moreover, since the time spent watching television or using electronic media (screen time) is increased, in Romania 80% of children spend at least 2 h/day using electronic devices or watching TV on weekend days and 52% on weekdays. The overweight and obesity problem remain an important public health problem in Romania with the 15% of boys overweight and 31% obese, and 26% of girls overweight and 9% obese. (COSI, 2020)

Recent nationwide studies regarding physical activity (PA) in Poland suggest that a small proportion of children are meeting the recommended level of  $\geq 60$  minutes of moderate- to vigorous-intensity PA (MVPA) per day: 24.2% of 10- to 15-year-olds met 1 hour of MVPA per day in the cross-sectional study. The latest Polish "Physical activity in school-aged children" study of children aged 8–16 years, which is based on the Health Behaviour in School-aged Children (2020) methodology, reports that only 21.5% of adolescents reach the WHO recommended levels of physical activity for health, with significantly more boys (28.5%) being active than girls (15.2%).

Obesity is also becoming a burning issue. Recent research into the physical activity of school-aged pupils in Poland has shown that 13.3% of children are overweight (14.9% girls, 11.6% boys) and levels of obesity are at 4.5% (5.7% girls, 3.3% boys). Moreover, in the last 10 years, a slight increase in obesity (+2%) has been observed in all age categories. The influence of rapidly developing modern communication technologies is visible; 16% of youth spend 4 hours or more watching television or playing computer games on weekdays.

In Netherlands, in schools, physical education is a mandatory subject in primary education, although frequency and duration are not regulated by law. About 75% of schools provide two lessons of physical education per week. Secondary schools are obliged to include physical education and to spread the lessons over the school year and according to demand in terms of quality, intensity and variety. The number of hours of PE in primary schools is decided upon by the schools themselves. In 2013, pupils in the first 2 years in primary schools received an average of 144 minutes of PE per week; for pupils in years 3-8 of primary school, the figure was 87 minutes per week. Recently, the Ministry of Education, Culture and Science and the Primary Education Council presented their action plan in which they aim for at least 2, but preferably 3 hours of PE in primary education by the year 2027.

An ISTAT (the Italian National Institute of Statistics) research shows that in Italy about 2 million 130 thousand children and adolescents aged 3-17 are overweight and almost 2 million do not practice sports or physical activity. A percentage of 74.2% consume fruit and / or vegetables every day, but only 12.6% reach 4 or more servings. Despite the decreasing trend, a quarter of children and adolescents consume sweets and fizzy drinks daily, 13.8% salty snacks. By the recent WHO study on Physical activity factsheet, if a good number of children between 8–9 years practice physical activity (83% boys and 81% girls), with growth, these high levels seem to drop drastically, registering among youngsters between 11–15 years just a 11% (15% boys and 8% girls).

In France, in 2020 (UNICEF,2020), 38 million children under age 5 were overweight or obese. In 2016, more than 340 million children and adolescents aged 5 to 19 were overweight or obese. Among children and adolescents aged 6 to 17, only 51% of boys and 33% of girls met the WHO physical activity recommendations in 2015. The 6 to 10 years old are the most active with 7 out of 10 boys and 1 out of 2 girls reaching the WHO recommendations.

In Portugal just a 38% of children between 10-11 years old practice physical activities and, among adolescences, this amount seems to drop with a 12% of youngsters between 14 – 15 years old continuing sports activities. The recent Portuguese Report Card on Physical Activity for Children and Youth study (Mota, et al. 2018) shows that 36% of young people aged 10 to 11 years and 4% among adolescents aged 16 to 17 years accomplished the WHO PA guidelines of 60 minutes per day of moderate-to-vigorous PA. Recent self-reported data on PA shows that 57.5% of youth aged 6–14 years and 35.6% for those aged 15 to 21 years<sup>2</sup>; and that less than 25% of youth aged 11 to 15 years complies with the WHO PA recommendations. Reported data indicates also that 61.8% of children aged 6 to 9 years

and 59% of youth aged 10 to 17 years participate in some form of organized sports at least once per week. About 21% of children and adolescents living in Portugal are currently enrolled in a sport club/sport federation and about 18% of children and adolescents, enrolled in formal education, participate in school sports clubs (Portuguese Ministry of Education – unpublished data).

In Austria a small number of youngsters (17%), between 11 and 17 years old, practice regular physical activity, with a 23% of boys and a 12% of girls. According to the Health Behaviour in School-aged Children - HBSC results from 2018 for Austria (Inchley, 2018), 17.4% of the adolescents (aged 11–17 years) meet the recommended physical activity levels of 60 minutes per day (23.2% boys and 12.5% girls). Moreover, 28.5% of these young people are physically active for more than 7 hours per week. The WHO GHO 2010 estimates for Austrian adolescents (defined as aged 11–17 years in relation to WHO data) report that 24.6% reach the recommended physical activity levels for health, where the proportion of boys meeting the recommended levels is almost twice as high as that of girls (34.4% and 15.1%, respectively).

As noted in the EU Guidelines on Physical Activity, the daily habits of young children have changed in recent years due to new leisure patterns (TV, internet, video games, smartphones, etc.) and this has led to a decrease in their physical activity. Therefore, according to the promotion of motor skills, physical and sport activities for children, this project aims to support children in sport and to tackle the risk of dropout by developing nutritional, psychological and biomechanical advice. To achieve this, trainers, educators, entrepreneurs and monitors (TEAM) and parents/guardians will be encouraged to share competences and knowledge on how to develop children's physical, mental and social skills through sport.

### Objectives

1. To identify and analyze strategies for supporting children aged 6 to 12 in practicing sport through a playful approach, promoting healthy physical and mental development, and fostering inclusion and adaptation to diverse social and environmental contexts.
2. To conduct a needs analysis and evaluate best practices across different EU countries (Austria, France, Italy, Poland, Portugal, Romania, and The Netherlands) through survey data to inform the development of effective interventions and resources.

### Methods

We conducted a comprehensive needs analysis through the development and distribution of a survey via Survio (or equivalent tools used by local partners) to key target groups, including parents/caretakers, teachers in training, sports club coaches, and TEAM members (trainers, educators, affiliates, and mentors), which resulted in 500 responses that were analyzed by the partner from Netherland and shared with other partners.

The chronology of the actions to carry out this analysis was:

- Development of survey for needs analysis
- Data collection
  - Spreading survey through link on Survio in English (or another online tool decided by local partner\*)
- Data analysis
  - All data received through Survio (results of needs analysis and of best practices) of the participating countries have been received
  - Analysis of Survio results done by SSNB and shared with partners.

### Results and discussions

The first question was from which country are you? Most of the respondents came from Portugal, followed by Italy, Romania and France, we received less answers from Poland, Austria and the Netherlands. Bot overall we collected more than 500 responses. Please see Table 1.

Table 1. Country of respondents

Country	#Answers	Ratio
Austria	23	4.59%
France	78	15.57%
Italy	89	17.76%
Poland	41	8.18%
Portugal	165	32.93%
Romania	84	16.77%
The Netherlands	21	4.19%
Other, please specify		0%

The second question (table 2) was regarding age. And the following figure shows the age groups of the respondents:

Table 2. Age of respondents

What is your age?	#Answers	Ratio
Under the age of years old	12	2.4%
18 till 30 years old	87	17.37%
31 till 50 years old	352	70.26%
51 till 65 years old	46	9.18%
Over 66 years old	4	0.8%

We can clearly see that most respondents were between 31 and 50 years old. Nearly 1 out of 5 respondents were in the age group 18 till 30 years old. Ten percent were aged 51 till 65 years old and we did not receive many answers below 18 years old or older than 66 years old. Furthermore, we asked respondents: *What is your current role (in coaching) in sports?*

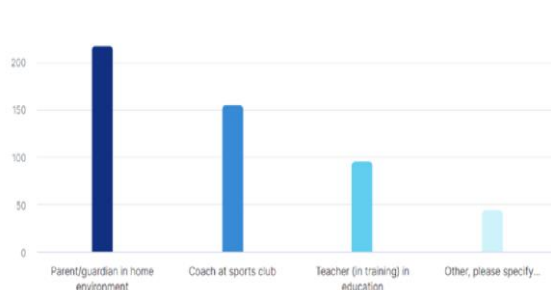


Figure 1. What is your current role in coaching in sports?

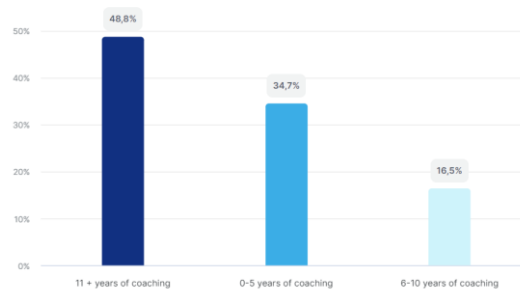


Figure 2. Years of being a trainer/coach

As you can see in figure 1 most respondents had the role of parent/guardian in the home environment. But still more than half of the respondents were a coach at a sports club or teacher (in training) in education. The latter two groups received additional questions which are shown below. The first question for this the coaches/trainers was: how long have you been coaching in sport? And as you can see most coaches/trainers had a lot of experience (Figure 2).

Furthermore, we received answers from coaches/trainers from team sports, individual sports or both team and individual sport. The group of coaches/trainers of individual sports were represented a bit more but still we have a good point of reference also for the coaches/trainers of team sports.

Table 3. What kind of sports they coach

Have you been coaching mainly team or individual sports?	#Answers	Ratio
Mainly team sport	87	30.74%
Mainly individual sports	121	42.76%
Both team and individual sport	75	26.5%

We also asked the trainers/coaches the following question: *Have you been coaching mainly on a professional/athlete level or grassroots level?* More than two-thirds of all respondents are mainly coaching at grassroots level, 1 out of 5 respondents is active at both a professional and grassroots level and just over ten percent are coaching mainly on professional/athlete level.

The next couple of questions were about what kind of things they support the children to develop. For example, we asked them: *Do you support child(ren) aged 6 to 12 in sports, in the development of broad motor skills?* Is this question broad motor development means that children learn to move in a versatile way. It is important that all skills are covered, such as balance, run, jump, throw, catch, hit and kick a ball.

From the respondents that are a coach or teacher (n = 297) almost 95% said they are supporting children in the development of broad motor skills. The next question (#8) was similar to the previous question but addressing the development of 21st century skills. According to respondents 90% addressed also 21st century skills such as such as communication, creative thinking, critical thinking, collaboration, problem solving, social and cultural skills, self-regulation. About 80% of child(ren) aged 6 to 12 in sports were coached about healthy nutrition (question 9) and 95% are supported in acquiring fair play skills (question 10). Furthermore, respondents were asked in what way do you think sport can positively contribute to the development of children aged 6-12 years old? (question 11)

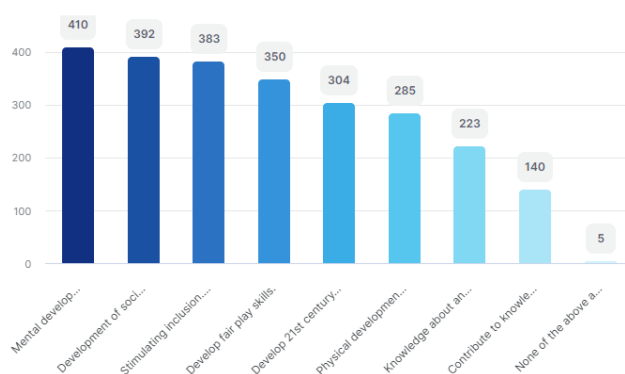


Figure 3: Sport can positively contribute to the development of....

Full answers (figure 3), in order from mentioned the most to the answer selected only 5 times:

1. Mental development,
2. Development of social skills,
3. Stimulating inclusion = Everyone can practice sport, regardless of physical and/or mental limitations, social and/or economic background).
4. Develop fair play skills.
5. Develop 21st century skills = By 21st century skills we mean skills such as communication, creative thinking, critical thinking, collaboration, problem solving, social and cultural skills, self-regulation).
6. Physical development and broad motor development.
7. Knowledge about and use of healthy food. Contribute to knowledge about positive impact on the environment and sustainability (Like recycling).
8. None of the above answers. I thank all students for participating in this study. No funding was used for this study.

Question number 12 was: Do you have sufficient knowledge and skills about themes to encourage participation in sports by children between the ages of 6-12? And the themes mentioned in this question are physical development, mental development, healthy nutrition, development of social skills, inclusion, fair play, 21st century skills, broad motor development, environment & sustainability. Almost 75% of respondents said they have enough knowledge and skills but also 25% of respondents answered negatively to this question. This means the PLAYS program can contribute a lot to the development of knowledge and skills from the teachers and coaches. In addition to the previous question another 75% of respondents said they can use help in order to stimulate sports participation of children between 6-12 years old (question 13). Furthermore, we asked respondents: How could you be helped? (question 14, table 4):

Table 4. What kind of communication is best for supporting trainers/coaches

How could you be helped?	#Answers	Ratio
Online knowledge sharing	302	74.8%
Instruction manual	111	27.5%
Application on smartphone	75	18.6%
Other, please specify	22	5.4%

This table is important for the development of the PLAYS-methodology and how we will communicate our findings. No, we know in general what trainers and teacher already do/know and what they still want to learn and in what way we need to communicate this to them. In summary the PLAYS project should (at least) address the following:

- 25% of trainers and coaches say they don't have the right knowledge or skills: Do you have sufficient knowledge and skills about the themes\* to encourage participation in sports by children between the ages of 6-12? \*The themes mentioned in this question are: physical development, mental development, healthy nutrition, development of social skills, inclusion, fair play, 21st century skills, broad motor development, environment & sustainability.
- 75% of the trainers and coaches said they can use help in order to stimulate sports participation of children between 6-12 years old.
- Most trainers/coaches believe sport can contribute to: Mental development, Development of social skills, stimulating inclusion, Develop fair play skills, Develop 21st century skills and Physical development and broad motor development.
- Most coaches/trainers want to have online knowledge sharing (75%), followed by an instruction manual (more than 25%) and application on smartphone (almost 20%).

## Conclusions

**Need for enhanced knowledge and skills:** A significant portion of trainers and coaches (25%) reported insufficient knowledge and skills in areas such as physical and mental development, nutrition, social skills, and sustainability. This indicates a need for more comprehensive training programs to enhance their ability to encourage children's participation in sports.

**Support for trainers and coaches:** Seventy-five percent of respondents expressed a desire for additional help in stimulating sports participation among children aged 6-12. This highlights the need for the PLAYS project to provide targeted resources, such as training manuals and online support, to better equip trainers and coaches.

**Importance of playful physical activities:** The emphasis on play within the PLAYS project aligns with research indicating that playful activities not only engage children but also foster long-term participation in physical activities. This playful approach is seen as essential for promoting lifelong physical activity habits.

**Social and mental benefits of sports:** Respondents overwhelmingly agreed that sports contribute positively to children's mental development, social skills, and inclusion. These aspects, alongside fair play and 21st-century skills, were seen as key benefits, reinforcing the role of sports in holistic child development.

**Increased sedentary behavior:** The review highlights a worrying trend of sedentary lifestyles among children across Europe, exacerbated by excessive screen time. This calls for urgent interventions, especially in countries where physical activity levels are particularly low.

**Diverse national contexts:** The study's data from countries such as Romania, Poland, and Portugal underscore the variability in physical education policies and participation rates across Europe. The PLAYS project must tailor its strategies to address the unique challenges faced by each country in promoting physical activity among children.

Physical activity is important for the health and well-being of children, and schools can play an important role in promoting physical activity.

As theorized by Johan Huizinga (2016) in his famous essay "Homo Ludens", play is primary to and a necessary condition of the generation of culture. Moreover, play makes everything more interesting and affordable, especially for children and youngsters.

For these reasons, the PLAYS consortium has decided to put the play at the center of its proposal (as the acronym suggests), to promote sport and physical activity among children through playful activities able to boost lasting engagement and avoid possible dropouts.

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