



CROSS  **OVER**

PROMOTING SCHOOL SUCCESS THROUGH SPORT

PROGRAM VALIDATION



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1. Introduction

This document describes the process of validation of the Crossover program and the impact measurement of the five pilots implemented during the project lifecycle (Portugal, Turkey, Romania, Cyprus and Italy – Annex I – National Pilot Test Reports). It also can be used as a guide regarding monitoring and assessment process for future program implementations.

2. Theory of Change

The crossover program was created to empower students from 12-14 years old using Sport and Physical Activity as a tool to develop a set of cognitive, affective, behavioural and relational skills and promote school success, helping to prevent school dropout.

Sport and physical activity in general have been shown to be systematically associated with the physical and psychological health of children and adolescents (Annex II – Paper). In a nutshell, previous studies suggest that sport and/or physical activities in childhood and/or adolescence have an adaptive impact on cognitive functions (e.g., memory, attention, and executive functioning), self-esteem, behaviour and academic performance (de Greeff et al., 2014; Hillman et al., 2009; Tine & Butler, 2012). Several authors refer that replacing classes with physical activities does not only have a detrimental effect on learning, but, also, has a significant effect on academic performance operationalized through school grades (de Greeff et al., 2014; Machado, 2012; Riley et al., 2014).

As previously mentioned, the effect of sport and physical activity on school performance appears to be documented and it was that reason that we selected as the main tool to develop the Crossover program. On other hand, we wanted to know what kind of important variables for school adjustment and psychological well-being in an academic context could be enhanced using sports and physical education as a tool.

After some literature review (for more information – consult Crossover Preliminary Research), we got to the conclusion that there were three key skills that appear to be facilitated through sport and have an impact on school success and reducing early dropout:

1. Self-esteem - related to how people value and perceive themselves, and it can have a great impact on several aspects of their lives (e.g., on the ability to make decisions, to recognize strengths, to try new or difficult things...) (Mind, 2019).

2. Self-regulation/Emotional Regulation - ability to adaptively regulate one's own cognition, emotions and behaviour, in order to effectively respond to internal and environmental demands (McClelland & Cameron, 2012; Raffaelli, Crocket, & Shen, 2005). This is a fundamental competence to successful accomplishment of adaptive developmental tasks at all stages of life (McClelland et al., 2018).

3. School engagement - multifaceted concept, composed of three dimensions: behavioural, emotional and cognitive engagement. Behavioural engagement concerns students' participation, namely their involvement in 1. academic and social or extracurricular activities. Emotional engagement is related to students' reactions towards teachers, classmates, academics and school. Finally, cognitive engagement encompasses the idea of investment: students' effort to understand complex ideas and master difficult skills (Fredricks, Blumenfeld, & Paris, 2004).

With these findings we structured Crossover program to promote those key-skills, incorporating small activities to the school curriculum of Physical Education. We wanted to, first, analyze that the program was from a scientific perspective enhancing those variables and how those variables interacted between them. Due to time constraint of the project and leaving for future research, it would be interesting to analyse that not only Crossover improves those competences that have empiric data on school success improvement, but also has a significant impact on school success and early dropout prevention directly. For this analysis, we would need a bigger sample as described in Annex II. In alternative, it can be explored what kind of physical activities from the curriculum impact more on these particular skills.



3. Validation of the Study

For the correct validation, an experimental study was designed. The classic experimental design specifies a control group and an experimental group, but the independent variable is only administered to this last. However, both groups are measured on the same dependent variables (Labaree, 2013). In our case, the following variables were chosen:

Type of Variable	Construct
Independent Variable	Crossover Programme
Dependent variables	Self-Esteem
	Self-regulation Emotional Regulation
	School Engagement

The main goal of this validation process was, then, to examine the program’s efficacy in promoting middle school students’ self-esteem, self-regulation and school engagement, which were considered key variables for promoting school success and preventing early school leaving.

Specific objectives

- Explore the effects of the implementation of the Crossover program on students’ levels of self-esteem, self-regulation and school engagement.
- Explore the correlation between the variables self-esteem, emotional regulation and school engagement (Annex II).
- Compare the program’s effects on the control and experimental groups in the Portuguese pilot (Annex II).



4. Assessment and Psychometric Measures

To adequately measure the study’s variables, it must be used a validated instrument in the respective population. A validated instrument corresponds to a scale that was designed to be administered among the intended respondents: e.g., in order to assess Portuguese students’ self-esteem, the Portuguese partner found an instrument related to such dimension and that was previously administered among Portuguese students. However, in the present project, this was not always the case for all the pilots due to the lack of existence of adaptation studies for such instruments or resources/expertise to conduct an experimental scientific research in all the countries addressed.

Therefore, there were used different scales in the different countries - the Turkish, Romanian, Italian and Cypriot Pilot. As some of them did not have an official validation for the country in hand, it did not fit the experimental protocol for the production of the scientific paper and statistical analysis on SPSS (Statistical Package for the Social Sciences). Thus, the Portuguese pilot was the only one to conduct a scientific paper on the validation process with a control group with the objective of serving academic purposes. Other countries applied the initial version of the scales or other adapted to the country which is enough for monitoring and assessing the impact of the program in the students.

The following table contains information concerning psychometric measures used in each of the national pilot tests (more information in Annex I - National Pilot Test Reports).

Variables	Examples of Instruments used
Self-Esteem	Rosenberg Self-Esteem Scale (EAR) (Rosenberg et al, 1989 Portuguese version of Romano et al, 2008)
Self-regulation	Questionnaire of Emotional Regulation for Children and Adolescents (QRE - CA) - (Gullone and Taffe, 2012, Portuguese version by Nunes, 2013)
	Self-regulation Scale - Novak, S.P. & Clayton, R R. (2001)
	Online Self-regulation Questionnaire - Selcan KILIS & Zahide YILDRIM (2018)
	ASRQ - Academic Self - regulation Questionnaire - Alivernini F, Lucidi F, & Managelli S. 2001
School Engagement	Student Engagement in School Scale - a four-dimensional scale (EAE-4DS) - Lam et al. 12, Portuguese version by Veiga, 2012).
	School Engagement Scale (SES) Fredericks, Bluemanfeld, Friedel & Paris
	Fast Track Project Child Behavior Questionnaire - Bandy, T., & Moore, K. A. (2010)

5. Programme Implementation Protocol

The implementation of the program as set in the Guidelines for facilitators is flexible. Meaning that the facilitator can choose the activities and define different program duration which best suits the initial screening of the group. However, a minimal protocol must be followed to ensure the correct monitoring and evaluation of the impact:

1. Selection of a head teacher for the implementation of the Crossover Program;
2. Selection of the physical education class to implement the program - children from 12 to 14 years old.
3. Clarification session for parents and delivery of informed consent (In Annex III - Supporting documents).
4. Introduction of the Program to the students.
5. Implementation of the instruments to measure the impact by a psychologist (ensuring that each set of questionnaires are anonymized, and the order randomized for each student). The assessment protocol must be applied in a classroom ensuring the silence and luminosity of the room to facilitate the concentration. All the protocol should be implemented in one single time and in the first session after introduction and last session after reflection.
6. Preparation and implementation of sessions in Physical Education classes according to the initial screening (questionnaires).
7. Reflection Session of the experience with students
8. Evaluation of the impact of the programme

In the case that a control group is chosen, the protocol is similar except the point 6 and 7.





6. Summary of results of the pilots

In this section, it will be presented the summary of the results of the implemented pilots. In all the different pilots, we can confirm that Crossover Program had a positive impact on most of the variables in study even though the program was implemented differently in each country regarding duration, structure and chosen activities. For more information check Annex I – National Pilot Test Reports.

In Portugal, it was confirmed that all the variables in the study – self-esteem, emotional regulation and school engagement – improved and reported higher values between the pre and post intervention comparing experimental and control groups. Exploring the impacts of the CROSSOVER program in terms of significance at statistical level, we found that there were some important differences to highlight. With significant at statistical level, in the experimental group, cognition, agency and suppression were different and in the control group, affection and distraction. These results suggest that the CROSSOVER program had a greater impact, in the Portuguese pilot, on thinking and mental representation abilities, on the ability to act on these mental representations in the sense of potentiating school engagement, and finally, on the abilities of emotion regulation through distraction. It is suggested that distraction can work as a mechanism of psychological decentration that can be useful when emotions in a school context become overwhelming and difficult to manage.

In Italy, it was possible to notice a clear improvement in the percentage of students who felt more involved and active in school life (school engagement variable in particular). Before the activities, quite half part of the students felt excluded, while after the activities, 80% of them improved their perspective on social inclusion. Self-esteem did not see much improvement, but this is likely related to the restricted time. Only 5% of the students feel more high esteem after the activities. We believe that in a longer period of time these results can change and the percentage of students that experience self-esteem can increase.

In Romania, it was highlighted a slightly increased level of emotion dimension and a significant increase of Behavior and Cognition Dimensions in self-regulation. It was observed an increase in the level of affective engagement and some in the level of behavioral engagement which it is presumed is due to the fact that students felt more comfortable in their group, more integrated, less marginalized, and more responsible due to the fact that the module of safe learning environment and enhancing inclusiveness has been persistently addressed in their activities.

In the Cypriot context, on a more general note it was noticed that students had a more positive attitude and got closer to each other by the end of the implementation as they got the opportunity to work on some aspects that the regular curriculum does not allow them to explore. Before the implementation of the pilot testing the majority of students had a low to average self-esteem, having some trouble handling their emotions and understanding them and at the same time, it was difficult for them to engage with school.

Finally, in the Turkish pilot, there was an increase of 33% in the average of self-regulation, 42% in school engagement and strongly increased, 67%, self-esteem in the students after Crossover Program.

7. Conclusion

The results suggest that the articulation of the program with sports activity in the context of the physical education subject has an adaptive effect on school engagement and emotional regulation from a scientific perspective. The development of competence improvement programs using sports and physical education as a tool can be an asset in optimizing a set of cognitive, affective and behavioural variables essential for school engagement and academic performance in pre-adolescence. In this particular case, self-esteem, self-regulation and school engagement.

Measuring the impact of similar programs is crucial in strengthening the value and efficacy of the proposal activities. In particular, in Crossover, it allows to adapt with based on the evidence the program objectives and activities to the group needs, matching the principles of Non-Formal Education. Therefore, after implementing the proposed questionnaires, the facilitator disposes of an initial diagnose of the needs in that specific class and can better choose the modules and activities from those modules. In the last session, the facilitator can have a rigorous notion of what worked and what to improve for future implementations.

ANNEX I
NATIONAL PILOT TEST REPORTS

CROSSOVER PILOT IN CYPRUS

1.METHOD

Participants

Sex	60%F 40% M Prefer not to say/Other
Age	Between 12 and 14
School year	1st-3rd Grade
General Average Grade in the previous school year:	Average 17 70% between 17 and 20 30% less than 17
Nationality	75% Cyprus 15%European
Currently, does the student suffer from any medical condition, whether physical or psychological?	0% Yes 100% No If someone answered "yes", please clarify which one(s) and how long the student has been diagnosed:
How often does the student practice sports?	10% Never " 30% Once a week " 50 % 2-3 times a week " 20% +3 times a week " If the student practices any kind of sport outside the school, which one(s) is it? Basketball, Dance, TaeKwondo, Gym
Does the student have any academic support outside school (e.g., private tutoring)?	80% Yes " 50% No

Procedure

The questionnaires took place before the implementation with the support of the facilitator of the project and their teachers. They had their time to fill it out and in case they needed help we were assisting them. We evaluated 20 participants; The results were analysed as it can be seen below. On the second phase, we gave the same questionnaire to the same participants that had been through the pilot testing. Again, on the second stage the facilitator and the teacher were in charge of it.

Number of the Session	Duration	Main objectives	Main activities (with reference to the modules)
1	25 mins	get to know each otherbreak the ice	create a safe learning environment lines in order of
2	20 mins	improve listening skills-create a safe space	create a safe learning environment-Blind animals
3	10 mins	promote teamwork, social connections, overcome barriers	special buddy
4	15 mins	social engagement	promote school engagement - the fisherman

Number of the Session	Duration	Main objectives	Main activities (with reference to the modules)
5	20 mins	build strong relationships and trust between students, explore the surrounding	promote school engagement-blind adventure
6	20 mins	set rules and create safe space with everyone	promote school engagement-our rules
7	20 mins	empower collaboration-problem sloving	create safe learning environment - upside down
8	30 mins	improve strategy sills and problem-solving	create a safe learning environment-wall handball
9	20 mins	develop observation skills, raise awareness on differences and similarities	promote school engagement-adverbial walking
10	10 mins	feeling of understanding and appreciation-encourage verbal expression	promote school engagement - impression of the day
11	20 mins	reflect on qualities,	self-awareness- a hand full of me
12	30 mins	set concentration environment, create a safe space, non verbal communication, physical contact	Create safe learning environment-stop and go
13	20 minutes	Building up cohesion	Our Rules
14	20 minutes	Raising awareness of emotional states	Adverbial walking
15	30 minutes	Developing two-way communication	Drawing
16	20 minutes	Promoting positive feelings	Catch Me If You Can
17	30 minutes	Contributing a balanced self-concept	A Hand Full Of Me
18	15 minutes	Developing self-efficacy	The Washing Machine
19	30 minutes	Listening, controlling urges	Red Light Green Light
20	40 minutes	Organizing self-control, raising awareness	Weak Link
21	30 minutes	Improving inner motivation skills	Ballon Tap

3. RESULTS AND DISCUSSION

On a more general note, we realized that students had a more positive attitude and got closer to each other by the end of the implementation as they got the opportunity to work on some aspects that the regular curriculum does not allow them to explore. Being more precise before the implementation of the pilot testing the majority of students had a low to average self-esteem, they had some trouble handling their emotions and understanding them and at the same time, it was difficult for them to engage with school. on a more personal talk with them, we realized that they had trouble finding interesting topics and school and activities that could engage them to understand some of the subjects better. It is challenging to engage everyone in a classroom, but they shared with us that they needed more interactive lessons to make them energetic and willing to learn new things. Most of the time they had to take some extra lessons or work on their own if they wanted to get more information. We can see some important changes as some of the participants really understood how our project can have a positive and meaningful impact on their lifestyle especially when it comes to school engagement their self-regulation and self-esteem.

1 Questionnaire	PRE-TEST general average score	POST-TEST general average score	Increase/Decrease
Self-esteem Rosenberg	21	50	13.8

Questionnaire on Self-Regulation	PRE-TEST general average score	POST-TEST general average score	Increase/Decrease
Emotions (items 1-5)	25	11.2	5.4
Behavior (items 9-13)	20.3	37.4	8.4
Cognition (items 6-8)	22	45.3	10.5

School Engagement	Pre-test	After-test	Results
Behavioral Engagement (items 11-15)	16.8	45	16.7
Cognitive engagement (items 1-5)	24.4	47.2	9.3
Affective engagement (items 6-10)	24.4	51.4	11

4. CONCLUSION

The general feeling was that participants were satisfied with the activities, they enjoyed learning by playing on a different way that they are used to. We did not face any significant difficulties but of course, we made some adjustments to make sure everyone was feeling in a safe space. Participants enjoyed more activities that had physical interaction with each other. sometimes they were struggling at the debriefing as it was their first interaction with such conversation, but by the end of the implementation they got more familiar with the procedure and they were willing to speak more and express themselves

A suggestion for the pilot would be that it could take place continuously days and finish the lesson plan. The daily interaction could have been even more beneficial to the students

CROSSOVER PILOT IN ITALY

1. METHOD

Participants

The Project was delivered at the Istituto Comprensivo Statale "E.Curiel" Paullo - Milan (Italy) from 7th of February to 21st of March (1month and a half), twice a week during the PE lessons (about 15-20min).

Number of students involved in the project: 21 | 8 females, 12 males | 17 Italians and 4 double citizenship (1 Chinese, 2 Egyptians, 1 Bulgarian) | Students with special needs: none | Students with academic support: 2 | Students that play sports - Once / twice a week: 8, More than 3 times: 12, No sport: 2 - Sport practiced: Football, volleyball and swimming.

School grade: Level A (highest): A | Level B (medium): B | Level C (Lower): C

Procedure

Questionnaires Application: 1° 7th February | 2° 2nd may

Activities proposed: The teacher decided to follow the order of the manual. Starting with a creation of learning environment, then promotion of school engagement and self-esteem, at last improving self-regulation. All the activities were very popular with the students.

Activity	Considerations
07/02/2022 Lines in order of	Easy to explain, easy to play. Available and engaging to all. I ask the students to make as many lines as possible in 10minutes, then i compare the results. The classes made similar lines, not many options. All of the pupils were in. Nothing negative to report.
09/02/2022 Group pictures	Lot of creativity. Older students (14yo) were more creative than younger. One of the pupils favourite exercise. Easy to play multiple time, always something new to show. Nothing negative to report.
14/02/2022 Team strategy	Perfect activity to reveal who is the leader, sometimes leaders were good and sometimes were not. Best classes (as group collaboration) did it better. Nothing negative to report.
17/02/2022 Blind guides	Everyone was focus on the activity. All of the students gave their best, as guide as blind move. Great debriefing at the end. I'm going to do every years since now. Nothing negative to report.
21/02/2022 Cycle of paper	I adapted the activity to the materials of the school. I used yoga mats, they had to complete a route walking only on the mats. I saw a good cooperation among the students. Something negative, copying the more efficient team it was too easy by the others.
24/02/2022 Upside down	I used gymnastic mats, group of 5 students (possibly same gender, cause the contact was part of the activity) per mat. It was harder than expected. In my opinion it is advisable making gender team at this age (specially 13-14yo).Boys were more uncomfortable with same gender contact, easier for the girls. It's not always possible making gender group in the same class.
28/02/2022 Adverbial walking	This activity was the hardest for the majority of boys. They have some issues to show their feelings and emotions, mostly who are recognised as leaders. This means they usually don't show (and consequently they don't know how to do it) their feelings. Useful debriefing at the end.

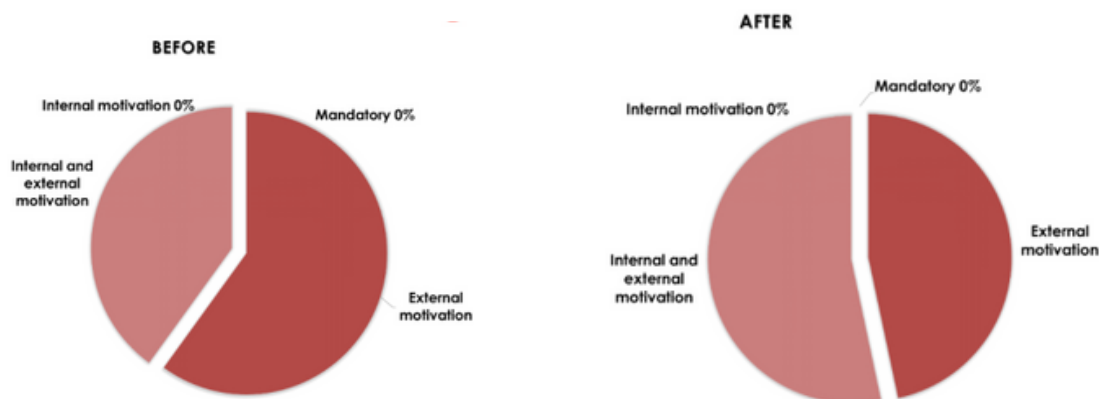
Activity	Considerations
07/03/2022 The fisherman	Easy to explain, easy to play. Good for all ages. Big effort need it, good as warm up and conditioning. I suggest not to play too long.
14/03/2022 Help a colleague	We already use the tutoring as educational model. Me and the students find it useful and helpful. Better with the older ones.
17/03/2022 Let me tell you	Really deep activity. I only played with the older ones. I thought they only were able to focus on the activity, finding the positive vibes. Most of them where surprise about all the positive descriptions they received.
21/03/2022 Find something that you love	Really fun, a good way to each other and keep on moving. Good for all ages, good for play multiple time. The most favourite activity, students want to lead it during Portugal's mobility.

2. RESULTS AND DISCUSSION

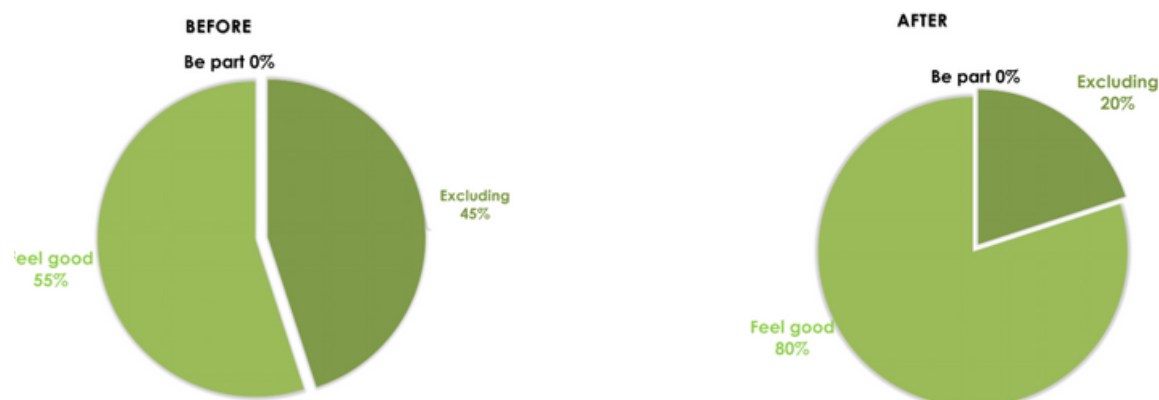
SELF ESTEEM



SELF REGULATION



SCHOOL ENGAGEMENT



3. CONCLUSION

From the graphs, it is possible to notice a clear improvement in the percentage of children who feel more involved and active in school life. Before the activities, quite half part of the students felt excluded, while after the activities, 80% of them feel good. This is a very good results that prove the importance of this type of activities at school.

Self-esteem did not see much improvement, but this is likely related to the restricted time. Only 5% of the students feel more high esteem after the activities. We believe that in a longer period of time this data can change and the percentage of students that experience self-esteem can increase.

We believe that improving school involvement can in time also affect the area of self-esteem and self-regulation, which in any case has seen an increase not so much in percentage but in numbers by increasing the starting level.

We believe that this project has been really useful in highlighting the result based on scientific tests that give value to what non-formal education activities can do.

The manual created is easy to share, and as far as L'Orma is concerned, we have the possibility to continue disseminating the project. L'Orma lead a lot of training courses for teachers, educators and coaches, and we will present this project and the results during our local activities, to share this program to all the people that works with young and kids.

CROSSOVER PILOT IN PORTUGAL

1. METHOD

Participants

For the pilot, we recruited two groups:

1. The experimental group, with whom we implemented the program, is composed of 27 participants with a mean age of 12.8 years (0.10, standard deviation), containing 17 male participants (63%) and 10 female participants (37%). Of these 27 participants, 24 (88.9%) have Portuguese nationality and 3 participants have Brazilian/Portuguese nationality (37%) - see table 1.

2. The control group, who did not receive the intervention, is composed of 24 participants with a mean age of 12.1 years (0.9, standard deviation), containing 8 male participants (33.3%), 10 female participants (41.7%) and 6 participants who are not revealed their gender (25.1%). Of these 24 participants, 14 (58.3%) have Portuguese nationality, 3 participants have Brazilian/Portuguese nationality (12.5%), 5 have Brazilian/Italian nationality (20.9%) and 2 have Brazilian nationality (8.3%) - see table 1.

The sessions were led by the teacher of physical education and three facilitators from Animam Viventem NGO expert in Non-formal education.

Table 1. Descriptive statistics of the two groups (experimental and control)

		Experimental Group				Control group			
		No	%	M	SD	No	%	M	SD
	Age	27	100	12.8	0.10	24	100	12.1	.09
Gender	Male	17	63.0			8	33.3		
	Feminine	10	37.0			10	41.7		
	Without identifying	-	-			6	25.1		
Nationality	Portuguese	24	88.9			14	58.3		
	Brazilian/Portuguese	3	11.1			3	12.5		
	Brazilian/Italian	-	-			5	20.9		
	Brazilian	-	-			two	8.3		
School Year	7th year	27	100			24	100		
Practice Sports outside school	Two to three times a week	15	56.6			14	58.3		
	More than three times a week	12	44.4			1	4.2		
	Once a week	-	-			6	25.0		
	Never	-	-			3	12.5		

		Experimental Group				Control group			
		No	%	M	SD	No	%	M	SD
Type of Sports Practice outsidesschool	Football	6	22.2			1	4.2		
	Basketball	2	7.4			1	4.2		
	Swimming	2	7.4			7	29.2		
	Others	4	14.8			2	12.6		
	I do not practice	13	48.1			7	29.2		
Academic Support	Yes	6	22.2			-	-		
	No	21	77.8			-	-		
Psychological Support	Yes	4	14.8			7	29.2		
	No	23	85.2			17	70.8		



Procedure

In an initial phase of data collection, a letter of introduction of the investigation was sent to the direction of the Cidadela school group, Cascais. After authorization for data collection, the physical education teacher was informed of the study's fundamentals and purpose. A letter was then sent to each parent with all the necessary information about the CROSSOVER program. Informed consent was also sent, in which the confidentiality of the responses was ensured, as well as anonymity in the treatment of statistical data. The program was applied between December 2021 and May 2022, with data collected between the first week and the last week of the program in both groups.

We used the following instruments to measure the impact:

Student Engagement in School Scale - a four-dimensional scale (EAE-4DS)

School engagement was assessed using the EAE-4DS (Lam et al. 12, Portuguese version by Veiga, 2012). The EAE-4DS is a multidimensional scale, with self-report responses, with a likert scale. It comprises 33 items distributed in 4 dimensions (cognitive, affective, agency and behavior), focused on school engagement. Higher scores correspond to greater internal and external actions focused on school engagement. The internal consistency of the 4 dimensions was as follows: cognitive ($\alpha=.64$), affective ($\alpha=.86$), agency ($\alpha=.79$) and behavior ($\alpha=.82$).

Rosenberg Self-Esteem Scale (EAR)

Self-esteem was assessed using the EAR (Rosenberget al., 1989 Portuguese version of Romano et al., 2008). The EAR is a one-dimensional self-report instrument composed of ten statements, answered on a Likert scale, related to self-esteem. Higher values correspond to higher levels of self-esteem. The internal consistency of the EAR was $\alpha=.87$., being considered adequate.

Questionnaire of Emotional Regulation for Children and Adolescents (QRE-CA)

Emotion regulation was assessed using the QRE-CA (Gullone and Taffe, 2012, Portuguese version by Nunes, 2013). The QRE-CA is a self-report scale with 10 items divided into three dimensions that represent emotion regulation strategies, namely Cognitive Reassessment, Experiential Suppression and Distraction. Higher scores on the subscales correspond to greater use of the corresponding strategy. The internal consistency of the 3 dimensions was as follows: Cognitive Reassessment ($\alpha=.80$), Experiential Suppression ($\alpha=.61$) and (Distraction $\alpha=.56$).

After implementing the questionnaires to both groups by a psychologist, the teacher of Physical Education and a facilitator from Animam Viventem NGO implemented the following 14 sessions from 03 - 12 - 2021 until 20 - 05 - 2022:

Table 2. Description of the sessions

N. of the Session	Duration	Main Objectives	Main activities (with reference to the modules)
1	50 minutes	To learn how to move in the space as a group, approaching to physical contact. To promote collaboration as a group	CREATE A SAFE LEARNING ENVIRONMENT: Stop and go Group pictures
2	50 minutes	Ice breakerTo empower collaboration and coordination as a whole group. To explore the leadership dynamics in the groupTo train time managing as a group in completing a task	CREATE A SAFE LEARNING ENVIRONMENT:The lodger The snake
3	50 minutes	To promote cooperation as a team. To explore the importance of different talents and skills in the class	CREATE A SAFE LEARNINGENVIRONMENT:The cycle of paper
4	50 minutes	To promote trust and collaboration	CREATE A SAFE LEARNINGENVIRONMENT: Blind Guides
5	50 minutes	To increase teamwork and care for the other	PROMOTE SELF-ESTEEM: Human Chess
6	50 minutes	To raise awareness about one's strength. To stimulate team creativity	PROMOTE SELF-ESTEEM:Your Game

N. of the Session	Duration	Main Objectives	Main activities (with reference to the modules)
7	50 minutes	To promote positive feelings and peer bonding through motor activities. To build trust among pupils To explore student's experiences when they begin a new activity/sport	PROMOTE SCHOOL ENGAGEMENT: Catch me if you can, but I have a friend! Blind adventure
8	50 minutes	To promote flexibility	IMPROVE SELF-REGULATION: Red light, green light PROMOTE SELF-ESTEEM Let me tell you..
9	50 minutes	To establish a set of agreed rules. To build cohesion among pupils	PROMOTE SCHOOL ENGAGEMENT: Our Rules
10	50 minutes	To promote collaborative work. To learn to lead, to listen, be creative.	Extra-booklet activity Shipwrecked
Extra PE class activity	Ongoing in every class	To increase teamwork and care for the other	PROMOTE SELF-ESTEEM: Helping Out!
Extra PE class activity	Ongoing in school area	To become more engaged with the project. To create challenges that promote sports and youth engagement. To engage in physical exercise. To enhance the feeling of belonging	BECOME AN AMBASSADOR: Challenge me up
Extra PE class activity	Portuguese and English Classes	To get inspired by others. To be aware how much they can achieve if they want to. To see on a different perspective some society issues	BECOME AN AMBASSADOR: Movie Marathons
Extra PE class activity	In Science classes	To develop pupils ecological conduct. To encourage cooperation among pupils	PROMOTE SCHOOL ENGAGEMENT: Echo Champions



3. RESULTS AND DISCUSSION

In table 3, the means, standard deviation, minimum, maximum, amplitude and asymmetry measurements are described in the two groups at the first moment

Table 3. Means, standard deviation, minimum, maximum, amplitude and asymmetry measures in the two groups at the first moment.

	Mean	SD	Min	Max	SK	KT
Pre-Treatment Experimental Group (N=27)						
Cognition (QEE)	2.13	.95	1.00	5.48	.90	1.15
Affect (EQ)	1.88	1.07	1.00	5.80	.03	1.54
Behavior (QEE)	2.60	1.26	1.00	6.00	-.40	.68
Agency (QEE)	2.23	1.07	1.00	5.80	.36	.95
Self-esteem (QA)	2.31	1.17	1.00	6.00	.51	1.04
Suppression (QRE-CA)	1.65	1.04	1.00	6.00	3.17	1.89
Pre-Treatment Control Group (N=29)						
Cognition (QEE)	2.42	.99	1.00	5.80	.27	.66
Affect (EQ)	2.42	.99	1.00	5.80	.27	.66
Behavior (QEE)	2.52	.80	1.00	5.47	.04	.41
Agency (QEE)	1.97	.96	1.00	5.40	.72	1.09
Self-esteem (QA)	2.89	1.10	1.00	5.80	-.52	.35
Suppression (QRE-CA)	2.71	1.01	1.00	5.60	-.48	.23

Note. SD, Standard-Deviation; KS, Kolmogorov-Smirnov; SK, Skewness; Kurtosis.

Table 4 shows the differences between the mean values in the first and second moments, in the variables under study, in the experimental group. There are statistically significant differences between the mean values of the variables Cognition ($p < 0.5$), Agency ($p < 0.5$), and Suppression ($p < 0.5$). The average values of Cognition and Agency are higher in the second moment ($p < 0.5$), while the average values of Suppression are lower ($p < 0.5$), compared to the first moment.

Table 4. Comparison between the First Moment (Pre) and the Second Moment (Post) in the variables under study in the Experimental Group

Experimental Group		No	Average	Deviation error	Mean standard error	t	sign
Cognition (QEE)	Pre-Treatment	27	3.67	.72	.14	-1,981	.05*
	After treatment	29	4.06	.75	.14		
Affect (EQ)	Pre-Treatment	27	4.55	1.25	.24	-1,092	.28
	After treatment	29	4.88	.96	.18		
Behavior (QEE)	Pre-Treatment	27	5.19	.61	.12	-1,406	.17
	After treatment	29	5.41	.57	.11		
Agency (QEE)	Pre-Treatment	27	3.13	.82	.16	-2,058	.04*
Self-esteem (QA)	Pre-Treatment	27	27.74	6.05	1.17	-1,373	.18
	After treatment	29	29.93	5.87	1.09		
Suppression (QRE-CA)	Pre-Treatment	27	3.46	.63	.12	2,721	.01*
	After treatment	29	3.01	.62	.11		
Revaluation (QRE-CA)	Pre-Treatment	27	2.40	.63	.12	-1,515	.14
	After treatment	29	2.61	.40	.07		
Distraction (QRE-CA)	Pre-Treatment	27	5.65	.98	.19	-0.095	.92
	After treatment	29	5.67	.92	.17		

Note: *= $p < 0.05$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire

Table 5 shows the differences between the mean values in the first and second moments, in the variables under study, in the control group. There are statistically significant differences between the mean values of the variables Affection ($p < 0.5$) and Distraction ($p < 0.5$). The mean values are higher in the second moment compared to the first moment ($p < 0.5$).

Table 5. Comparison between the First Moment (Pre) and the Second Moment (Post) in the variables under study in the Control Group.

Control Group		No	Average	Deviation error	Mean standard error	t	sign
Cognition (QEE)	Pre-Treatment	21	3.25	1.23	.27	-1,004	.32
	After treatment	24	3.59	1.05	.21		
Affect (EQ)	Pre-Treatment	21	3.32	1.21	.26	-2,268	.03*
	After treatment	24	4.12	1.13	.23		
Behavior (QEE)	Pre-Treatment	21	4.94	1.08	.24	-0.629	.53
	After treatment	24	5.12	.71	.15		
Agency (QEE)	Pre-Treatment	21	2.64	1.16	.25	-0.419	.68
	After treatment	24	2.78	1.01	.21		
Self-esteem (QA)	Pre-Treatment	21	21.14	6.70	1.46	-1,877	.07
	After treatment	24	24.67	5.78	1.18		
Suppression (QRE-CA)	Pre-Treatment	21	3.50	.79	.17	0.412	.68
	After treatment	24	3.41	.73	.15		
Revaluation (QRE-CA)	Pre-Treatment	21	2.07	.77	.17	-1.97	.06
	After treatment	24	2.46	.50	.10		
Distraction (QRE-CA)	Pre-Treatment	21	4.50	1.64	.36	-2,649	.01*
	After treatment	24	5.63	1.12	.23		

Note: * $p < 0.05$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire

We can confirm that all the variables in study improved and reported higher values between the pre and post treatment, however the impacts of the CROSSOVER program were explored in terms of significance at statistical level to ensure the rigor of the results achieved. In the experimental group and in the control group there were some differences at statistical level. With significant at statistical level, in the experimental group, cognition, agency and suppression were different and in the control group, only affect and distraction. These results suggest that the CROSSOVER program had a greater impact on thinking and mental representation abilities, on the ability to act on these mental representations in the sense of potentiating school engagement, and finally, on the abilities of emotion regulation through distraction. It is suggested that distraction can work as a mechanism of psychological deceleration that can be useful when emotions in a school context become overwhelming and difficult to manage.

CROSSOVER PILOT IN ROMANIA

1. METHOD

Participants

Number of participants 33 students

Location of the sessions: Școala Gimnazială Nr. 11 Oradea, Romania

Sex	39 % (13 students) of F 61 % of (20 students) M
Age	Between 12 and 14 57.5 % (19) students 12 years old 33.3 % (11) students 13 years old 9.09 % (3) students 14 years old
School year	2021-2022
General Average Grade in the previous school year:	Average % between X and Y % less than X %/No. students/general grade 24% (8) students 9.50-10.00 6% (2) student 9.00 - 9.49 49 % (16) students 8.50 - 8.99 6 % (2) students 5.00- 7.49 15% (5) students 7.50 - 8.49 Notes*Romanian school grading scale 1-10 (points) >5 Admitted
Nationality	45.5 % Hungarian 54.5 % Romanian
Currently, does the student suffer from any medical condition, whether physical or psychological?	12 % Yes 88 % No 1 student - Intellectual disability 2 students - Dyslexia 1 student - Heart medical condition
How often does the student practice sports?	% Never " % Once a week " % 2-3 times a week " % +3 times a week " If the student practices any kind of sport outside the school, which one(s) is it? 27% (9) students are practicing sports (2 football, 5 basket, 1 karate, 1 dance)
Does the student have any academic support outside school (e.g., private tutoring)?	18 % Yes " 82 % No " 6 students

Procedure

Session N.	1-6
Date	December - January
Time	During sport school classes
Facilitators	Saitos Alina, Simut Beatris, Sirbu Ioana, Zaha Paula
N. of Students	33

General Objective of the Session:- Create a safe learning environment							
N.	Name of the Activity and Description	Date	Objective of the Activity	Facilitator	Duration	Material	N. of Students
1a	Lines in order of...	3.12	Icebreaker, To know each other	Sirbu Ioana, Zaha Paula	10 min	Nothing	18
1b	Lines in order of...	3.12	Icebreaker, To know each other	Saitos Alina, Simut Beatris	10 min	Nothing	15
2a	The cycle of paper	7.12	To empower collaboration in team to explore the importance of different talents and skills in the class	Saitos Alina, Simut Beatris	20 min	Sheets of paper, ropes, cones	15
2b	The cycle of paper	8.12	To empower collaboration in team to explore the importance of different talents and skills in the class	Sirbu Ioana, Zaha Paula	20 min	Sheets of paper, ropes, cones, basket	18
3a	Blind animals	14.12	To improve listening skills and concentration To create a funny positive environment in the class	Saitos Alina, Simut Beatris	15 min	Cards pictures of animals, blindfolds	15
3b	Blind animals	15.12	To improve listening skills and concentration To create a funny positive environment in the class	Sirbu Ioana, Zaha Paula	15 min	Cards pictures of animals, blindfolds	18

Session N.	1-6
Date	March - April
Time	During sport school classes
Facilitators	Saitos Alina, Simut Beatris, Sirbu Ioana, Zaha Paula
N. of Students	33

General Objective of the Session: Create a safe learning environment; Promote school engagement; Promote Self Esteem							
N.	Name of the Activity and Description	Date	Objective of the Activity	Facilitator	Duration	Material	N. of Students
1a	The cycle of paper	03.03	To empower collaboration in team To explore the importance of different talents and skills in the class	Simut Beatris	20 min	Sheets of paper, ropes, cones, basket	15
1b	Helping Out...	04.03	To enhance self-recognition of the effort and tasks performed To assign the responsibility and increase the cooperation with the teacher To develop leadership skills, planning, conflict management, communication with groups	Sirbu Ioana	50 min	Gymnastic circles, balls, gymnastic bench	18
2a	Helping Out	10.03	To enhance self-recognition of the effort and tasks performed To assign the responsibility and increase the cooperation with the teacher To develop leadership skills, planning, conflict management, communication with groups	Simut Beatris	50 min	Gymnastic circles, balls, gymnastic bench	15
2b	Blind Animals	09.03	To improve listening skills and concentration To create a funny positive environment in the class	Sirbu Ioana	15 min	Cards pictures of animals, blindfolds	18
3a	Today's Teachers' Rules	17.03	To promote equal chances for all the pupils To stimulate active engagement targeted to the pupils with lower motor skills	Simut Beatris	15 min	A basketball A whistle Coloured t-shirts for the tiebreaker	15
3b	The wWshing Machine	16.03	To develop self-efficacy and self-esteem To promote a positive way of thinking	Sirbu Ioana	10 min		18

Session N.	1 - 6
Date	March - April
Time	During sport school classes
Facilitators	Saitos Alina, Simut Beatris, Sirbu Ioana, Zaha Paula
N. of Students	33

General Objective of the Session: Promote school engagement; Become an Ambassador; Promote Self Esteem								
N.	Name of the Activity and Description	Date	Objective of the Activity	Facilitator	Duration	Material	N. of Students	Observation
4a	Catch me if you can can, but I have a friend	24.03	To promote positive feelings and peer bonding through sport activities	Simut Beatris	10 min		15	
4b	Catch me if you can can, but I have a friend	23.03	To promote positive feelings and peer bonding through sport activities	Sirbu Ioana	10 min		18	
5a	Find something that you love	31.03	To discover common interests To identify interests/hobbies/situation that the students feel competent	Simut Beatris	10 min	N-1 Chairs	15	
5b	Find something that you love	30.03	To discover common interests To identify interests/hobbies/situation that the students feel competent	Sirbu Ioana	10 min	N-1 Chairs	18	
6a	The fisherman	07.04	To promote social engagement among peers To promote positive feelings through social engaging	Simut Beatris, Sirbu Ioana Saitos Alina, Zaha Paula	15 min		33	Two classes of students being part form the implementation program
6b	Basketball/Football tournament	06.04	Team building Get to know each other Physical exercises	Simut Beatris, Sirbu Ioana Saitos Alina, Zaha Paula	50 min	Basket balls, Footballs and courts	33	Two classes of students being part form the implementation program

3. RESULT AND DISCUSSION

Table No. 1 Results for Self Esteem Assessment

We observe a slightly increased level of self-esteem post-intervention.

1. Questionnaire	PRE-TEST general average score	POST-TEST general average score	Increase/Decrease
Self-esteem Rosenberg	68.5	72	3.5

Table No. 2 Results for Self-Regulation Assessment

We observe a slightly increased level of emotion dimension and a significant increase of Behaviour and Cognition Dimensions. We can assume some activities in our program triggered behavioural aspects of control, which were easier to address and to enhance through sport activities. Once we have an increase in behavioural regulation, we can assume the increasing of the cognitive awareness.

1. Questionnaire on Self-Regulation	PRE-TEST general average score	POST-TEST general average score	Increase/Decrease
Emotions (items 1-5)	111.2	113	1.8 increase
Behaviour (items 9-13)	84.4	95.2	10.8 increase
Cognition (items 6-8)	89.3	100.3	11 increases

Table No. 3 Results for School Engagement Assessment

We observe an increase in the level of affective engagement and some in the level of behavioral engagement which we presume is due to the fact that students felt more comfortable in their group, more integrated, less marginalized, and more responsible due to the fact that the module of safe learning environment and enhancing inclusiveness has been persistently addressed in our activities.

We understand the drop in the level of agency through the cultural reality of Romanian education system, where students are enough encouraged to interact with teachers, to express their own opinions, nor to make suggestions due to a culture with a conservative heritage. Education in Romania does not address the interests and suggestions of students, but rather follows a rigid framework.

During the implementation of the programme, students may have encountered difficulties with their possible attempts of approaching and they may have become more aware of cultural rigidities of teacher-student relationships. Change also requires action in terms of teachers' attitudes and mentalities.

1. School Engagement	PRE-TEST general average score	POST-TEST general average score	Increase/Decrease
Behavioral Engagement (items 11-15)	179.8	180.6	0.8 increase
Cognitive engagement (items 1 -5)	154.4	154.4	stagnation
Affective engagement (items 6-10)	143.6	160	16.4
Agency (6-20)	113.8	106.4	- 7.4 decrease

4. CONCLUSION

The program has been shown to stimulate aspects of students' behavioural, emotional and cognitive dimensions of self-regulation and has proven to be a good tool for creating a safe, inclusive learning environment that encourages school success rates, which is visible in increased awareness (scores associated with the affective) and behavioural dimensions of school engagement.

CROSSOVER PILOT IN TURKEY

1. METHOD

Participants

Our school comprised a locally representative convenience sample from a cosmopolitan region within Ankara. A total of 262 students between the ages of 10-14 are studying at our school. 24 students (9.1%) participated in pilot tests. Teachers (project staff) collected a convenience sample in 2021-2022 from the students who are 7th grades students. The mean student age was 13.6 years, with a range of 13 to 14. Slightly over half (54,2%) of the sample was girl. Students' socio economic aspect is not high comprised the majority (83.7%) of the sample, with students with psychological difficulties are the next two largest subpopulations.

The implementations started in December, 2021 and lasted in May, 2022. 21 sport activities are implemented in our school's sport centre. The Pilot tests are made by Sema Kılıç who is a P.E teacher. All the plans of pilot- tests organized with the help of English teachers, School Principle and ICT teacher.

Sex	54.2 % of F 45.8 % M
Age	Between 13 and 14
School year	2021-2022
General Average Grade in the previous school year:	Average 56 % between 70-100 44 % less than 70
General Average Grade in the last school year:	82 % between 70-100 18 % less than 70
Nationality	100% Turkish
Currently, does the student suffer from any medical condition, whether physical or psychological?	37.5 % Yes The vast majority of their fathers (who are soldiers) live separately from their children for duty. (70.8%) Therefore, various psychological problems are seen in children.
How often does the student practice sports?	The majority 16 (66.16%) of students in the sample described that they practice sports +3 times a week , with 3 (12.5%) reporting 2-3 times a week, with 2 (8.3%) once a week, with 3 (12.5%) reporting never. Students practices Basketball football outside the school
Does the student have any academic support outside school (e.g., private tutoring)?	37.5 % Yes 62.5 % No

Procedure

Questionnaires used:

1. Self-regulation Scale (Online Self-regulation Questionnaire): Validity and Reliability Study of Turkish Translation-Selcan KİLİS ,Zahide YILDIRIM
2. Rosenberg Self Esteem Scale
3. School Engagement Scale (SES) Turkish Adaptation, Fredericks, Bluemanfeld, Friedel & Paris

Timing of application: pre-tests are applied in November,2021/Post tests are applied in June,2022

Number of students evaluated: 24 students are evaluated in the questionnaires. 54.2 % of Female and 45.8 % is Male. They are between 13 and 14 years old and they are 7th grade classes.

Structure of the sessions:

N. of the Session	Duration	Main Objectives	Main activities (with reference to the modules)
1	30 minutes	To promote cooperation	Don't Give Up My Hands
2	20 minutes	Promoting social interaction	Let Me Tell You
3	20 minutes	Promoting social engagement	The Fisherman
4	30 minutes	Increasing teamwork	Human Chess
5	30 minutes	Cooperating in order to achieve a goal	Blind Shapes
6	30 minutes	Enhancing collaborative behaviour	Garbage Truck
7	40 minutes	Setting common goals, division of tasks	Difficult Task
8	30 minutes	Increase problem solving	Four Castles
9	20 minutes	Supporting students' self-awareness	Reframe It
10	40 minutes	Collective problem solving	The Marshmallow Challenge
11	20 minutes	Social supporting	We fight together
12	40 minutes	Creating positive feelings	Today I
13	20 minutes	Building up cohesion	Our Rules
14	20 minutes	Raising awareness of emotional states	Adverbial walking
15	30 minutes	Developing two-way communication	Drawing
16	20 minutes	Promoting positive feelings	Catch Me If You Can
17	30 minutes	Contributing a balanced self-concept	A Hand Full Of Me
18	15 minutes	Developing self-efficacy	The Washing Machine
19	30 minutes	Listening, controlling urges	Red Light Green Light
20	40 minutes	Organizing self-control, raising awareness	Weak Link
21	30 minutes	Improving inner motivation skills	Ballon Tap

2. RESULTS AND DISCUSSION

Online Self-Regulation Scale

Pre-test average: 2,82 | Post-test average: 3,75 The difference between pre-test and post-test is 33%.

Rosenberg Self Esteem Scale

Pre-test average: 1.98 | Post-test average : 3.33 The difference between pre-test and post-test is %67

School Engagement Scale

Pre-test average: 1,90 | Post-test average: 2,81 à The difference between pre-test and post-test is %42

Results indicate that school sports participation was significantly associated with academic achievement, positive body-image perceptions, and self-esteem. Overall, participation in school sports demonstrated a significant standardized effect (.229) on academic achievement. Comparison with an alternative model comprising only non-sports extracurricular-activity participation found that the school sports model was both distinct and preferred. Findings suggest that school sports may promote several outcomes of interest to all branches teachers. It is thought that it is important for students to do sports activities in the following environments in increasing their school success; (a) physical education classes, (b) school sports, and (c) free-time activity. In addition to individual sports, group sports will also be important for them to develop communication and cooperation.



3. CONCLUSION

Implementing pilot tests created a positive atmosphere among the students and the students gained confidence. It also increased cultural awareness and fostered intercultural dialogue. Thanks to student mobility activities because Students had possibility of communication in foreign language and enlightening their horizon through that project.



ANNEX II
SKILLS PROMOTION AND SCHOOL
PERFORMANCE PROGRAM IN THE CONTEXT
OF PHYSICAL EDUCATION CLASSES

CROSSOVER: Skills Promotion and School Performance Program in the Context of Physical Education Classes

Abstract

Background: Programs to promote cognitive, emotional, and relational skills associated with sports have been systematically used in the classroom in order to optimize school engagement and performance. However, there are mixed results regarding the effectiveness of these programs. **Objective:** Thus, more research is needed to understand the impact of programs focused on optimizing competences, involvement and school performance inserted in physical education classes. **Method:** Two groups of adolescents were recruited (experimental and control). In the experimental group (N=24; Age=14.2, SD=0.6), a program to promote competences inserted in physical education classes called Crossover was applied. In the control class (N=24; Age=14.2, SD=0.6), the program was not applied. Both classes answered a set of questionnaires before and after the intervention (pre-post). **Results:** There were statistically significant differences in the average values in the dimensions of cognition, agency and experiential suppression, between the first moment and the second moment (experimental group). **Conclusions:** The application of the Crossover program had an adaptive impact on fundamental variables (eg, cognition and emotional regulation) for school performance. These results showed that programs to promote competences inserted in physical education classes can contribute to school engagement and performance, agency and experiential suppression, between the first moment and the second moment (experimental group). Programs to promote competences inserted in physical education classes can contribute to school engagement and performance.

Key words: Crossover; Sport; School performance; Cognition; Behavior.

Introduction

Sport and physical activity in general have been shown to be systematically associated with the physical and psychological health of children and adolescents. Previous studies suggest that sport and/or physical activities in childhood and/or adolescence have an adaptive impact on cognitive functions (e.g., memory, attention, and executive functioning), self-esteem, behavior and academic performance (de Greeff et al., 2014; Hillman et al., 2009; Tine & Butler, 2012). Several authors refer that replacing classes with physical activities does not only have a detrimental effect on learning, but, also, has a significant effect on academic performance operationalized through school grades (de Greeff et al., 2014; Machado, 2012; Riley et al., 2014). Indeed, the relationship between physical activity and academic performance has been systematically demonstrated through correlational and longitudinal study.

For example, evidence from correlational studies suggests the existence of a linear relationship between academic performance and physical activity (Sigfusdottir, et al., 2006; Kwak et al., 2009), where students practicing sport/physical activity have higher grades, regarding students who do engage in a sport/physical activity (Arday et al., 2014; Dexter, 1999; Morales et al., 2011). In the same sense, longitudinal studies suggest that physical activity benefits the development of executive functions (Chen, et al., 2014; Niemann et al., 2013; Tine & Butler, 2012), reading comprehension (Hillman et al., 2009), test scores (Niemann et al., 2013), and specifically, math scores (Riley et al., 2014).

As previously mentioned, the effect of sport and physical activity on school performance appears to be documented. There are also several important variables for school adjustment and psychological well-being in an academic context, namely, the ability to regulate emotions, self-esteem and behavioral and relational skills (Del Prette & Del Prette, 2005; Denham, 1998) that can be enhanced through sports practice (Coelho, 2014; Gumora, 2000). According to Woyciekoski and Hutz (2009), the ability to regulate emotions (framed in the concept of emotional intelligence) is a skill that allows individuals to develop verbal, behavioral and social skills, as they are able to identify and understand their emotions and others, facilitating their communication and solving social problems. Along the same lines, previous studies suggest that emotional knowledge facilitates emotional expression and the development of healthier relationships and prosocial behaviors in children and adolescents (Machado, 2012). Children and adolescents capable of building healthy relationships tend to report good levels of self-esteem (Harris & Orth, 2020). The development of emotion regulation skills, self-esteem and the ability to manifest prosocial behaviors tends to be positively associated with the ability to learn and school performance (Alves, 2006; Melo, 2005; Machado, 2012). With this in mind, several authors have developed a set of programs focused on the promotion and development of socio-emotional skills.

Self-esteem and emotion regulation tend to be described as two fundamental variables for psychosocial and school adjustment, both in the first and second school cycles and tend to be framed within the concept of emotional intelligence (Mayer & Salovey, 1990). These variables tend to be predictors of more adaptive responses to school stress and lower rates of aggressive behavior with adaptive impacts on adherence to school tasks (Almeida & Araújo, 2014). In this sense, the need to develop skills promotion programs of this nature is sustained. In fact, programs focused on the development of emotional and social skills have been systematically used to optimize a set of fundamental skills for emotional self-regulation, motivation, empathy and assertiveness (Amaral, 2014). According to the guidelines of CASEL (Collaborative for Academic, Social and Emotional Learning, Payton et al., 2008), the so-called Social and emotional learning (SEL) programs should focus on promoting skills of self-knowledge, self-regulation, awareness emotional, relationship management and conscious decision making (Payton et al., 2008). In this sense, according to these guidelines several programs were developed, namely PATHS (Promoting Alternative Thinking Strategies, Greenberg & Kusché, 1998), Zippy's Friends (Mishara and Ystgaard, 2006) and at the the GOAL (Going for the Goal, Greenberg et al., 2003). All these programs showed adaptive and incremental effects on the development of emotional and interpersonal skills with significant impacts on self-esteem, emotional regulation, psychological well-being and school adjustment. However, despite the extreme importance of these programs in socio-emotional development in a school context, there are still numerous issues to be explored. For example, to what extent is school engagement associated with self-esteem and emotion regulation? How are these variables associate in time? Or will there be a facilitating effect of introducing a skills program in physical education classes? In this sense, the present study intends to explore these questions in a differentiated way in order to clarify the impact of the CROSSOVER program on school engagement,

Objectives and Hypotheses

The aim of this article is to describe the preliminary impact of the CROSSOVER program on a group of students, through the comparison of two different moments: pre-treatment and post-treatment. A control sample will also be used without the application of the program, however, the participants of this sample will also answer the questionnaires in two moments. In this sense, the following hypotheses are described:

- H1: School engagement is positively correlated with self-esteem and with emotional regulation in both samples at the first moment (pre-treatment);
- H2: School engagement is positively correlated with self-esteem and emotion regulation in both samples in the first second (post-treatment);
- H3: There are statistically significant differences between the two moments (pre-post) in the variables under study in the experimental group;
- H4: There are no statistically significant differences between the two moments (pre-post) in the study variables in the control group;
- H5: School engagement and emotional regulation are statistically significant predictors of self-esteem, in both moments in the experimental group;

Method

Participants

The experimental group is composed of 27 participants with a mean age of 12.8 years (0.10, standard deviation), containing 17 male participants (63%) and 10 female participants (37%). Of these 27 participants, 24 (88.9%) have Portuguese nationality and 3 participants have Brazilian/Portuguese nationality (37%) – see table 1.

The control group is composed of 24 participants with a mean age of 12.1 years (0.9, standard deviation), containing 8 male participants (33.3%), 10 female participants (41.7%) and 6 participants who are not revealed their gender (25.1%). Of these 24 participants, 14 (58.3%) have Portuguese nationality, 3 participants have Brazilian/Portuguese nationality (12.5%), 5 have Brazilian/Italian nationality (20.9%) and 2 have Brazilian nationality (8.3%) – see table 1.

Table 1. Descriptive statistics of the two groups (experimental and control)

		Experimental Group				Control group			
		No	%	M	SD	No	%	M	SD
	Age	27	100	12.8	0.10	24	100	12.1	.09
Gender	Male	17	63.0			8	33.3		
	Feminine	10	37.0			10	41.7		
	Without identifying	-	-			6	25.1		
Nationality	Portuguese	24	88.9			14	58.3		
	Brazilian/Portuguese	3	11.1			3	12.5		
	Brazilian/Italian	-	-			5	20.9		
	Brazilian	-	-			two	8.3		
School Year	7th year	27	100			24	100		
Practice Sports outside school	Two to three times a week	15	56.6			14	58.3		
	More than three times a week	12	44.4			1	4.2		
	Once a week	-	-			6	25.0		
	Never	-	-			3	12.5		
Type of Sports Practice outsid school	Football	6	22.2			1	4.2		
	Basketball	2	7.4			1	4.2		
	Swimming	2	7.4			7	29.2		
	Others	4	14.8			2	12.6		
	I do not practice	13	48.1			7	29.2		
Academic Support	Yes	6	22.2			-	-		
	No	21	77.8			-	-		
Psychological Support	Yes	4	14.8			7	29.2		
	No	23	85.2			17	70.8		

Instruments

Student Engagement in School Scale - a four-dimensional scale (EAE-4DS)

School engagement was assessed using the EAE-4DS (Lam et al. 12, Portuguese version by Veiga, 2012). The EAE-4DS is a multidimensional scale, with self-report responses, with a Likert scale. It comprises 33 items distributed in 4 dimensions (cognitive, affective, agency and behavior), focused on school engagement. Higher scores correspond to greater internal and external actions focused on school engagement. The internal consistency of the 4 dimensions was as follows: cognitive ($\alpha=.64$), affective ($\alpha=.86$), agency ($\alpha=.79$) and behavior ($\alpha=.82$).

Rosenberg Self-Esteem Scale (EAR)

Self-esteem was assessed using the EAR (Rosenberget al., 1989 Portuguese version of Romano et al., 2008). The EAR is a one-dimensional self-report instrument composed of ten statements, answered on a Likert scale, related to self-esteem. Higher values correspond to higher levels of self-esteem. The internal consistency of the EAR was $\alpha=.87.$, being considered adequate.

Questionnaire of Emotional Regulation for Children and Adolescents (QRE-CA)

Emotion regulation was assessed using the QRE-CA (Gullone and Taffe, 2012, Portuguese version by Nunes, 2013). The QRE-CA is a self-report scale with 10 items divided into three dimensions that represent emotion regulation strategies, namely Cognitive Reassessment, Experiential Suppression and Distraction. Higher scores on the subscales correspond to greater use of the corresponding strategy. The internal consistency of the 3 dimensions was as follows: Cognitive Reassessment ($\alpha=.80$), Experiential Suppression ($\alpha=.61$) and (Distraction $\alpha=.56$).

Description of the CROSSOVER program

The CROSSOVER program was developed through a strategic partnership ERASMUS+ KA2 – school education, funded by the European Commission, with reference 2019-1-PT01-KA201-060900. This program was specially developed to promote a set of cognitive, affective, behavioral and relational skills, in the context of physical education classes. The CROSSOVER program was designed to be flexible and adaptable to each target group. In the particular case of this study, Crossover Program consisted of 10 sessions with 4 extra activities in addition to physical education classes. Each session lasted about 50 minutes where students performed a set of activities related to the main objectives of each module – see table 2 for details.

Table 2. Description of the CROSSOVER program in terms of number of sessions, duration, main objectives and main activities related to the modules.

Number of the Session	Duration	Main objectives	Main activities (with reference to the modules)
1	50 minutes	To learn how to move in the space as a group, approaching to physical contact To promote collaboration as a group	CREATE A SAFE LEARNING ENVIRONMENT: Stop and go Group pictures
2	50 minutes	Ice breaker To empower collaboration and coordination as a whole group To explore the leadership dynamics in the group To train time managing as a group in completing a task	CREATE A SAFE LEARNING ENVIRONMENT: The lodger, The snake
3	50 minutes	To promote cooperation as a team To explore the importance of different talents and skills in the class	CREATE A SAFE LEARNING ENVIRONMENT: The cycle of paper

Number of the Session	Duration	Main objectives	Main activities (with reference to the modules)
4	50 minutes	To promote trust and collaboration	CREATE A SAFE LEARNING ENVIRONMENT: Blind Guides
5	50 minutes	To increase teamwork and care for the other	PROMOTE SELF-ESTEEM: Human Chess
6	50 minutes	To raise awareness about one's strength To stimulate team creativity	PROMOTE SELF-ESTEEM: Your Game
7	50 minutes	To promote positive feelings and peer bonding through motor activities To build trust among pupils To explore student's experiences when they begin a new activity/sport	PROMOTE SCHOOL ENGAGEMENT: Catch me if you can, but I have a friend! Blind adventure
8	50 minutes	To promote flexibility	IMPROVE SELF-REGULATION: Red light, green light PROMOTE SELF-ESTEEM: Let me tell you..
9	50 minutes	To establish a set of agreed rules To build cohesion among pupils	PROMOTE SCHOOL ENGAGEMENT: Our Rules
10	50 minutes	To promote collaborative work To learn to lead, to listen, be creative.	Extra-booklet activity: Shipwrecked
Extra PE class activity	Ongoing in every class	To increase teamwork and care for the other	PROMOTE SELF-ESTEEM: Helping Out!
Extra PE class activity	Ongoing in school area	To become more engaged with the project To create challenges that promote sports and youth engagement To engage in physical exercise To enhance the feeling of belonging	BECOME AN AMBASSADOR: Challenge me up
Extra PE class activity	In Portuguese and English classes	To get inspired by others To be aware how much they can achieve if they want to To see on a different perspective some society issues	BECOME AN AMBASSADOR: Movie Marathons
Extra PE class activity	In Science classes	To develop pupils ecological conduct To encourage cooperation among pupils	PROMOTE SCHOOL ENGAGEMENT: Echo Champions

Procedures and Data Analysis

In an initial phase of data collection, a letter of introduction of the investigation was sent to the direction of the Cidadela school group, Cascais. After authorization for data collection, the physical education teacher was informed of the study's fundamentals and purpose. A letter was then sent to each parent with all the necessary information about the CROSSOVER program. Informed consent was also sent, in which the confidentiality of the responses was ensured, as well as anonymity in the treatment of statistical data. The program was applied between December 2021 and May 2022, with data collected between the first week and the last week of the program in both groups.

Descriptive statistics were used to describe the sample in terms of sociodemographic data. The Kolmogorov-Smirnov test revealed that the data distribution does not follow a normal distribution ($p < 0.05$). However, the Skewness test and Kurtosis values were between 2 to +2 and between 7 to +7, respectively, which means that the data can be considered treated statistically normal (Byrne, 2010). Spearman's correlation coefficient was used to explore the correlations between the variables. Due to an insertion error, it was not possible to make an intra-subject comparison regarding the first and second moments. Thus, a t test for independent samples was used to compare two moments (t test was chosen due to its robustness when compared to non-parametric test equivalent Mann-Whitney). The prediction models were explored through multiple linear regression with Stepwise criterion. All data were analyzed using the SPSS program.

Results

The description of results will be divided into 3 studies: Study 1 - Correlational Analysis of the Experimental and Control Group; Study 2 - Comparison of Means between the First and Second Moments (Experimental and Control Group) and Study 3 - Exploration of Predictors in Self-Esteem in the First and Second Moments in the Experimental Group (Stepwise Criterion). In this way, it is intended to systematize the presentation of data in a clear and coherent way. In table 3, the means, standard deviation, minimum, maximum, amplitude and asymmetry measurements are described in the two groups at the first moment.

Table 3. Means, standard deviation, minimum, maximum, amplitude and asymmetry measures in the two groups at the first moment.

Pre-Treatment Experimental Group (N=27)						
	Mean	SD	Min	Max	SK	KT
Cognition (QEE)	2.13	.95	1.00	5.48	.90	1.15
Affect (EQ)	1.88	1.07	1.00	5.80	.03	1.54
Behavior (QEE)	2.60	1.26	1.00	6.00	-.40	.68
Agency (QEE)	2.23	1.07	1.00	5.80	.36	.95
Self-esteem (QA)	2.31	1.17	1.00	6.00	.51	1.04
Suppression (QRE-CA)	1.65	1.04	1.00	6.00	3.17	1.89
Pre-Treatment Control Group (N=29)						
Cognition (QEE)	2.42	.99	1.00	5.80	.27	.66
Affect (EQ)	2.42	.99	1.00	5.80	.27	.66
Behavior (QEE)	2.52	.80	1.00	5.47	.04	.41
Agency (QEE)	1.97	.96	1.00	5.40	.72	1.09
Self-esteem (QA)	2.89	1.10	1.00	5.80	-.52	.35
Suppression (QRE-CA)	2.71	1.01	1.00	5.60	-.48	.23

Note. SD, Standard-Deviation; KS, Kolmogorov-Smirnov; SK, Skewness; Kurtosis.

Study 1 - Correlational Analysis of the Experimental and Control Group

First and Second Moments (Pre-Test) of the Experimental Group

Table 4 describes Spearman's correlations between the subscales of the School Engagement Questionnaire, the Self-Esteem Questionnaire and the Self-Regulation Questionnaire of Children and Adolescents in the First Moment (Pre-Test) of the Experimental Group. Affect is positively correlated with Self-esteem ($r = .76, p < .05$). In the same sense, Behavior is negatively correlated with Agency ($r = -.48, p < .05$) and with Distraction ($r = -.51, p < .05$). Self-esteem is negatively correlated with Suppression ($r = -.53, p < .05$) and is positively correlated with Reevaluation ($r = .51, p < .05$) - see table 4.

Table 4. Spearman correlations between the School Engagement Questionnaire subscales, Self-Esteem Questionnaire and Self-Regulation Questionnaire for Children and Adolescents ($N=27$).

	Cognition (QEE)	Affection (QEE)	Behavior (QEE)	Agency (QEE)	Self esteem (QA)	Suppression (QRE-CA)	Reevaluation (QRE-CA)	Distraction (QRE-CA)
Cognition(QEE)	1	-.04	.29	.22	.02	.13	.38	-.11
Affection(QEE)	-.04	1	.28	-.16	.76**	-.34	.18	-.03
Behavior(QEE)	.29	.28	1	-.48*	.16	.01	.10	-.51**
Agency(QEE)	.22	-.16	-.47*	1	-.05	-.04	-.07	.20
Self esteem(QA)	.02	.76**	-.16	-.05	1	-.53**	.51**	.06
Suppression(QRE-CA)	.13	-.34	-.01	-.04	-.53**	1	-.13	-.22
Reevaluation(QRE-CA)	.38	.18	-.10	-.07	.51**	-.13	1	.24
Distraction(QRE-CA)	-.11	-.03	-.51**	.20	.06	-.22	.24	1

Note: *= $p < .05$; **= $p < .01$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

Table 5 describes Spearman's correlations between the subscales of the School Engagement Questionnaire, Self-Esteem Questionnaire and Self-Regulation Questionnaire of Children and Adolescents in the Second Moment (Post-Test) of the Experimental Group. Cognition is positively correlated with Agency ($r = .60, p < .05$). Affect is positively correlated with Self-esteem $r = .63, p < .05$, and negatively correlated with Suppression ($r = -.52, p < .05$). Self-esteem is negatively correlated with Suppression ($r = -.40, p < .05$) and is positively correlated with Reassessment ($r = .46, p < .05$) - see table 5.

Table 5. Spearman correlations between the School Engagement Questionnaire subscales, Self-Esteem Questionnaire and Self-Regulation Questionnaire for Children and Adolescents (N=29).

	cognition (QEE)	Affection (QEE)	Behavior (QEE)	Agency (QEE)	Self esteem (QA)	Suppression (QRE-CA)	Revaluation (QRE-CA)	Distraction (QRE-CA)
Cognition(QEE)	1	-.02	.31	.60**	.01	.07	.22	.28
Affection(QEE)	-.02	1	.14	.05	.63**	-.52**	.10	.03
Behavior(QEE)	.31	.14	1	.12	.35	.04	.10	.11
Agency(QEE)	.60**	.05	.12	1	-.16	-.05	.11	.21
Self esteem(QA)	.01	.63**	.35	-.16	1	-.40*	.46*	-.12
Suppression(QRE-CA)	.07	-.52**	.04	-.05	-.40*	1	.05	.35
Revaluation(QRE-CA)	.22	.10	.10	.11	.46*	.05	1	.07
Distraction(QRE-CA)	.28	.03	.11	.21	-.12	.35	.07	1

Note: *= $p.05$; **= $p.01$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

First and Second Moments (Pre-Test) of the Control Group

Table 6 describes Spearman's correlations between the subscales of the School Engagement Questionnaire, the Self-Esteem Questionnaire and the Self-Regulation Questionnaire of Children and Adolescents at the First Moment (Pre-Test) of the Control Group. Cognition is positively correlated with Behavior ($r = .71, p < .05$), Agency ($r = -.61, p < .05$), Suppression ($r = .56, p < .05$) and Self-esteem ($r = .44, p < .05$). Affect is positively correlated with Agency ($r = .49, p < .05$) and Self-esteem ($r = .65, p < .05$). The Agency is positively with Affection ($r = .49, p < .05$), Behavior ($r = .67, p < .05$) and Self-esteem ($r = .47, p < .05$) - see table 6

Table 6. Spearman correlations between the School Engagement Questionnaire subscales, Self-Esteem Questionnaire and Self-Regulation Questionnaire for Children and Adolescents (N=24).

	cognition (QEE)	Affection (QEE)	Behavior (QEE)	Agency (QEE)	Self esteem (QA)	Suppression (QRE-CA)	Revaluation (QRE-CA)	Distraction (QRE-CA)
Cognition(QEE)	1	.01	.71**	.61**	.40	.56**	.44*	.30
Affection(QEE)	.01	1	.10	.49*	.65**	-.20	.10	.10
Behavior(QEE)	.71**	.01	1	.66**	.3	.45*	.55*	.40
Agency(QEE)	.61**	.49*	.67**	1	.47*	.30	.30	.40
Self esteem(QA)	.4	.65**	.3	.47*	1	-.30	.10	.01
Suppression(QRE-CA)	.56**	-.two	.45*	.30	-.30	1	.20	.1
Revaluation(QRE-CA)	.44*	.00	.55*	.30	.01	.20	1	.77**
Distraction(QRE-CA)	.3	.01	.40	.40	.01	.01	.77**	1

Note: *= $p.05$; **= $p.01$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

Table 7 describes Spearman's correlations between the subscales of the School engagement Questionnaire, the Self-Esteem Questionnaire and the Self-Regulation Questionnaire of Children and Adolescents in the Second Moment (Pre-Test) of the Control Group. Cognition is positively correlated with Behavior ($r = .70, p < .05$). Affect is positively correlated with Self-esteem ($r = .65, p < .05$) and Distraction ($r = .43, p < .05$). Self-esteem is negatively correlated with Suppression ($r = -.45, p < .05$) - see table 7.

Table 7. Spearman correlations between the School Engagement Questionnaire subscales, Self-Esteem Questionnaire and Self-Regulation Questionnaire for Children and Adolescents ($N=21$).

	cognition (QEE)	Affection (QEE)	Behavior (QEE)	Agency (QEE)	Self esteem (QA)	Suppression (QRE-CA)	Revaluation (QRE-CA)	Distraction (QRE-CA)
Cognition(QEE)	1	-.10	.70**	.30	.10	.10	.10	-.10
Affection(QEE)	-.10	1	.20	.30	.56**	-.30	.30	.43*
Behavior(QEE)	.70**	.20	1	.44*	.30	-.20	.20	.10
Agency(QEE)	.30	.30	.43*	1	.20	-.20	.20	.40
Self esteem(QA)	.00	.56**	.30	.20	1	-.45*	.40	.10
Suppression(QRE-CA)	.00	-.30	-.20	-.20	-.45*	1	.10	-.60**
Revaluation(QRE-CA)	.00	.30	.20	.20	.40	.10	1	.30
Distraction(QRE-CA)	-.10	.43*	.10	.40	.10	-.60**	.30	1

Note: *= $p < .05$; **= $p < .01$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

Study 2 – Comparison of Means between the First and Second Moments (Experimental and Control Group)

Table 8 shows the differences between the mean values in the first and second moments, in the variables under study, in the experimental group. There are statistically significant differences between the mean values of the variables Cognition ($p < 0.5$), Agency ($p < 0.5$), and Suppression ($p < 0.5$). The average values of Cognition and Agency are higher in the second moment ($p < 0.5$), while the average values of Suppression are lower ($p < 0.5$), compared to the first moment.

Table 8. Comparison between the First Moment (Pre) and the Second Moment (Post) in the variables under study in the Experimental Group.

Control Group		No	Average	Deviation error	Mean standard error	t	sign
Cognition (QEE)	Pre-Treatment	21	3.25	1.23	.27	-1,004	.32
	After treatment	24	3.59	1.05	.21		
Affect (EQ)	Pre-Treatment	21	3.32	1.21	.26	-2,268	.03*
	After treatment	24	4.12	1.13	.23		
Behavior (QEE)	Pre-Treatment	21	4.94	1.08	.24	-0.629	.53
	After treatment	24	5.12	.71	.15		
Agency (QEE)	Pre-Treatment	21	2.64	1.16	.25	-0.419	.68
	After treatment	24	2.78	1.01	.21		

Control Group		No	Average	Deviation error	Mean standard error	t	sign
Self-esteem (QA)	Pre-Treatment	21	21.14	6.70	1.46	-1,877	.07
	After treatment	24	24.67	5.78	1.18		
Suppression (QRE-CA)	Pre-Treatment	27	3.46	.63	.12	2,721	.01*
	After treatment	29	3.01	.62	.11		
Revaluation (QRE-CA)	Pre-Treatment	27	2.40	.63	.12	-1,515	.14
	After treatment	29	2.61	.40	.07		
Distraction (QRE-CA)	Pre-Treatment	27	5.65	.98	.19	-0.095	.92
	After treatment	29	5.67	.92	.17		

Note: *= $p.05$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

Table 9 shows the differences between the mean values in the first and second moments, in the variables under study, in the control group. There are statistically significant differences between the mean values of the variables Affection ($p<0.5$) and Distraction ($p<0.5$). The mean values are higher in the second moment compared to the first moment ($p<0.5$).

Table 9. Comparison between the First Moment (Pre) and the Second Moment (Post) in the variables under study in the Control Group.

Control Group		No	Average	Deviation error	Mean standard error	t	sign
Cognition (QEE)	Pre-Treatment	21	3.25	1.23	.27	-1,004	.32
	After treatment	24	3.59	1.05	.21		
Affect (EQ)	Pre-Treatment	21	3.32	1.21	.26	-2,268	.03*
	After treatment	24	4.12	1.13	.23		
Behavior (QEE)	Pre-Treatment	21	4.94	1.08	.24	-0.629	.53
	After treatment	24	5.12	.71	.15		
Agency (QEE)	Pre-Treatment	21	2.64	1.16	.25	-0.419	.68
	After treatment	24	2.78	1.01	.21		
Self-esteem (QA)	Pre-Treatment	21	21.14	6.70	1.46	-1,877	.07
	After treatment	24	24.67	5.78	1.18		
Suppression (QRE-CA)	Pre-Treatment	21	3.50	.79	.17	0.412	.68
	After treatment	24	3.41	.73	.15		
Revaluation (QRE-CA)	Pre-Treatment	21	2.07	.77	.17	-1.97	.06
	After treatment	24	2.46	.50	.10		
Distraction (QRE-CA)	Pre-Treatment	21	4.50	1.64	.36	-2,649	.01*
	After treatment	24	5.63	1.12	.23		

Note: *= $p.05$; QEE=School Engagement Questionnaire; QA=Self-Esteem Questionnaire; QRE-CA=Children and Adolescents Self-Regulation Questionnaire;

Study 3 - Exploration of Predictors in Self-Esteem in the First and Second Moments in the Experimental Group (Stepwise Criterion)

Table 10 shows a hierarchical model with 3 predictors that explains 76% of the variance of the variable Self-esteem ($b = .53, p < .01$), in the First Moment (Pre) of the Experimental Group. In the Second Moment, there is a hierarchical model with 2 predictors that explains 54% of the variance of the variable Self-esteem ($b = .30, p < .01$).

Table 10. Predictors of Self-Esteem in the First and Second Moments (Pre) of the Experimental Group (N=27).

Pre Experimental Group (N=27)							
	R	R2	B	Mistake	B	t	Sig
Affect (EQ)	.73	.53	2,565	.539	.530	4,754	.01
Revaluation (QRE-CA)	.83	.68	3,812	1,026	.394	3,715	.01
Suppression (QRE-CA)	.87	-.76	-2,830	1,046	-.295	-2,706	.01
Post Experimental Group (N=29)							
Affect (EQ)	.67	.50	3,890	.812	.638	4,787	.01
Revaluation (QRE-CA)	.74	.54	4,537	1,962	.308	2,312	.03

Discussion

The impacts of the CROSSOVER program were explored in a sample of 7th grade students. Not only were several evidence of the adaptive impact of the present program found on several variables, but also several relationships between them. Thus, it is possible to describe some considerations about the results.

The first hypothesis was partially confirmed, because in the experimental sample, only affection was correlated with self-esteem and behavior with distraction (negative correlation), and in the control sample, only affection was correlated with self-esteem and with suppression (negative correlation). These results suggest that there is an association between students' affective level and their ability to value themselves as a person and regulate their emotions. In fact, emotional regulation (reevaluation, suppression and/or distraction) can be framed in the concept of emotional intelligence (Mayer & Salovey, 1990) and tends to be associated with school performance (Almeida & Araújo, 2014). These results suggest that distraction and reappraisal are also associated with self-esteem.

The second hypothesis was confirmed, however, not all school engagement variables were associated with self-esteem and emotional regulation, in the two samples in the second moment. It is considered that this hypothesis was confirmed because there was an increase in the associations between these variables in the experimental sample, that is, all variables of school engagement are correlated with self-esteem and with the variables of emotional regulation. But in the control sample, only affect correlated with self-esteem and with distraction. Thus, there seems to be an effect of the CROSSOVER program on the association between the variables of school engagement associated with self-esteem and emotional regulation in the experimental sample in the second moment. Thus, it is objectively clear that when the two groups are compared in the second moment, there is clearly an increase in the associations of the variables under study in the experimental group compared to the control group. This difference can be interpreted as the result of the program effect, in the sense of optimizing the functional relationships between school engagement, self-esteem and emotional regulation.

Hypotheses three and four were partially confirmed because not all differences between variables were statistically significant. In the experimental group and in the control group there were some differences. In the experimental group, only cognition, agency and suppression were different and in the control group, only affect and distraction. These results suggest that the CROSSOVER program had a greater impact on thinking and mental representation abilities, on the ability to act on these mental representations in the sense of potentiating school engagement, and finally, on the abilities of emotion regulation through distraction. It is suggested that distraction can work as a mechanism of psychological decentration that can be useful when emotions in a school context become overwhelming and difficult to manage.

Finally, the fifth hypothesis was confirmed because some variables were in fact predictors of self-esteem, which holds an incremental relationship between school engagement and emotional regulation in explaining adequate levels of self-esteem in a school context. Specifically, affect, reappraisal and suppression in the experimental group were statistically significant predictors of self-esteem, while in the control group only affect and reappraisal were. These results suggest that, at first, where the program has not yet been implemented, in general the predictors of self-esteem are the same, namely affection (school engagement) and reassessment (emotional regulation). The value that students attribute to themselves in the school context may be a consequence of the affects experienced in their school engagement and in their ability to reassess emotionally demanding situations. Thus, it is possible to conclude that the present variables have a fundamental role in explaining self-esteem in a school context. Self-esteem is one of the variables associated with school performance (Alves, 2006; Melo, 2005). Thus, it is suggested that the development of competence promotion programs focused on school engagement and emotion regulation can have a significant impact on self-esteem and, consequently, on school performance.

Limitations and Future Studies

There are some limitations. The subjects under study are still in their pre-adolescence, which means that they may not have a vision of themselves that is relatively adjusted to their reality. Data were collected through questionnaires, which may bias the subjects' responses. The samples that made up the groups were smaller than 30 subjects, which limits extrapolations to the general population. This fact also led to the use of parametric and non-parametric statistics depending on the analyses.

The CROSSOVER program was applied in the context of the physical education subject, in order to understand the additive effect of sport in the promotion of competences. In this sense, there was a positive effect on the aforementioned variables, which is suggestive of an adaptive contribution of sport in school engagement. However, it is not possible to differentiate whether the program would present the same effects if it were applied outside physical education classes, in the sense of isolating the specific effects of the program modules. As described in the introduction, physical activity tends to have an adaptive effect on cognition, self-esteem, behavior and academic performance (Hillman et al., 2009; Tine & Butler, 2012).

Conclusions

The present work describes the preliminary study of the CROSSOVER skills promotion program in the context of physical education classes. The results suggest that the articulation of the program with sports activity in the context of the physical education subject has an adaptive effect on school engagement and emotional regulation. The development of competence development programs can be an asset in optimizing a set of cognitive, affective and behavioral variables essential for school engagement and academic performance in pre-adolescence.

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ANNEX III
SUPPORTING DOCUMENTS

Invitation Letter

We would like to invite the student you are responsible of to participating in a Project Erasmus+ K201 Strategic Partnership funded by ERASMUS+ Program called “Crossover: Promoting School Success through Sport” (2019-1-PT01-KA201-060900) in collaboration with schools and associations from Portugal, Cyprus, Italy, Romania, and Turkey.

PURPOSE

The aim of the project is to develop an innovative empowerment program for students using Sport and Physical Activity as a tool to develop key skills and competences with a strong focus on personal and social development, enabling school success, (and indirectly) promoting social inclusion and preventing early school leaving.

OBJECTIVES

Based on our preliminary research, we created an educational program, targeting students aged 12-14 years old, tackling 3 dimensions:

1. Development of personal, social and learning to learn competences specially focused on promotion of school engagement, self-esteem and self-regulation, strongly linked with school success.
2. Exploring cultural awareness and expression competences, fostering intercultural dialogue, diversity and social inclusion;
3. Connecting the dots: using competencies learned through sport in school and life.

METHODOLOGY

Considering and adapting principles from Sport Management, Sport Psychology, Self-determination and Coaching, among others, and following the principles and values of non-formal learning, the program is structured and planned although flexible and adaptable. We will promote dynamic activities with focus on learning by doing, based on experimental and experiential learning, with practical, dynamic and interactive approaches.

EXPECTED IMPACT

- Empowered students, with increased personal, social and learning to learn competencies;
- Increased cultural awareness and expression competences;
- Reinforced sense of belonging to Europe, as European Citizens, by creating a programme with a transnational component.
- As a consequence, we strongly believe in an increase of school success, social inclusion and further on a decrease in the risk of early school leaving.

CONTACT INFORMATION

If you have any questions or concerns about the research, please feel free to contact the Teacher responsible for the implementation of the program in the school:

NAME

EMAIL ADDRESS

AUTHORIZATION AND ASSIGNMENT OF RIGHTS OF IMAGE AND EXPLOITATION

(TO BE COMPLETED BY THE PARENTS/LEGAL GUARDIANS)

I (name), _____, born
 ___/___/_____, with ID number _____, as (father, mother, legal guardian)
 _____ of the participant (name)

_____, born
 ___/___/_____, with ID number _____, declare that, for the due legal effects, I authorize the utilization of the photographs and images collected during the activities of the Erasmus+ K201 Strategic Partnership Project - “Crossover: Promoting School Success through Sport” (2019-1-PT01-KA201-060900), funded by ERASMUS+ Program and in collaboration with entities from Portugal, Cyprus, Italy, Romania, and Turkey.

Furthermore, I expressly state that such images, videos and photographs may be used in physical or online advertising initiatives/actions, promoted by the partner entities of the project, Local Stakeholders (SPECIFY IF RELEVANT) and the National Agencies, regarding the project and ERASMUS+ programme promotion, hereby waiving any rights or compensation that may result from such use.

This image yielding will endure until the end of the project’s cycle of life, in 2023, and free of charge; however, the right to withdraw consent without compromising the legality of the treatments performed at any time remains valid.

As it is true and confirming that I have the legal capacity and authority to act on behalf of the registered minor, I date and sign this declaration.

Place and date: _____, _____, _____

Signature: _____

Informed Consent

The student you are responsible for is invited to participate in the validation of an educational program regarding sport and physical activity, the development of skills and key competences, and school success. This program is included in the Project Erasmus+ K201 Strategic Partnership “Crossover: Promoting School Success through Sport” (2019-1-PT01-KA201-060900), funded by ERASMUS+ Program and in collaboration with entities from Portugal, Cyprus, Italy, Romania, and Turkey.

PURPOSE OF THE VALIDATION STUDY

This validation study aims to understand whether the implementation of the Crossover programme with students aged 12-14 years old contributes to the promotion of school success. The results will only be used for scientific purposes.

PROCEDURE

The student’s participation will happen in two moments: before and after the programme implementation, in order to understand the effects of the intervention.

We sought to reduce, simplify and clarify, as much as possible, the material included in this envelope. In case the student wishes to participate, taking about 20 minutes of his/her time, the student will find several questionnaires: be aware of the fact that each one has specific instructions and includes different assessment scales.

POTENTIAL RISKS

There are no anticipated risks to the student’s participation.

POTENTIAL BENEFITS

The student may benefit from his/her participation, since being involved in sport activities is associated with the promotion of several competences, such as self-regulation, self-esteem and school engagement.

Our main goal is to comprehend the contributions of sport and physical activity in the promotion of school success in the larger society, in order to achieve a multiplying effect and sustainable impact, mainly through sharing and exchanging good practices.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with the student will remain confidential and will be disclosed only with your permission or as required by law. The information collected about the student will be coded, using initials and numbers, for example abc-123, etc. The data which has the student’s identifiable information will be kept separately from the rest of his/her data.

The data will be stored in the teacher responsible for the validation of the program office, in a password protected computer. It will be stored for approximately 5 years after the study has been completed, and then destroyed.

When the results of the validation study are published or discussed in conferences, no information will be included that would reveal the student’s identity.

PARTICIPATION AND WITHDRAWAL

The student's participation is voluntary, anonymous and he/she may withdraw from the study at any time, without consequences of any kind (e.g., he/she will still participate in the programme's activities). The student may also refuse to answer any questions he/she is reluctant to answer and still remain in the program.

ALTERNATIVES TO PARTICIPATION

The student's alternative to participation is not to participate in the validation of the program, but still being involved in the programme's activities.

However, if you do wish to allow him/her to participate, the student's contribution will be extremely valuable for the creation and implementation of future actions regarding sport and the promotion of school success.

SHARING INFORMATION

If you wish to receive information regarding the results of this study, please provide us with your email address:

CONTACT INFORMATION

If you have any questions or concerns about the research, please feel free to contact the Teacher responsible for the implementation of the program in the school:

NAME

EMAIL ADDRESS

I declare that I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this study.

Legal Guardian's signature ----- Date ____/____/____

Teacher's signature ----- Date ____/____/____

Verbal Informed Consent

You are invited to participate in a validation study of an educational program regarding sport and physical activity, the development of skills and key competences, and school success. This program is included in the Project Erasmus+ K201 Strategic Partnership “Crossover: Promoting School Success through Sport” (2019-1-PT01-KA201-060900), funded by ERASMUS+ Program and in collaboration with entities from Portugal, Cyprus, Italy, Romania, and Turkey.

PURPOSE OF THE STUDY

This research study aims to understand whether the implementation of the Crossover programme with students aged 12-14 years old contributes to the promotion of school success. The results will only be used for scientific purposes.

PROCEDURE

Your participation will happen in two moments: before and after the programme implementation, in order to understand the effects of the intervention.

We sought to reduce, simplify and clarify, as much as possible, the material included in this envelope. In case you wish to participate, taking about 20 minutes of your time, you will find several questionnaires: be aware of the fact that each one has specific instructions and includes different assessment scales.

POTENTIAL RISKS

There are no anticipated risks to your participation.

POTENTIAL BENEFITS

You may benefit from your participation, since being involved in sport activities is associated with the promotion of several competences, such as self-regulation, self-esteem and school engagement.

Our main goal is to comprehend the contributions of sport and physical activity in the promotion of school success in the larger society, in order to achieve a multiplying effect and sustainable impact, mainly through sharing and exchanging good practices.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your legal guardian’s permission or as required by law. The information collected about you will be coded, using initials and numbers, for example abc-123, etc. The data which has your identifiable information will be kept separately from the rest of your data.

The data will be stored in the teacher responsible for the validation of the program office, in a password protected computer. It will be stored for approximately 5 years after the study has been completed, and then destroyed.

When the results of the validation study are published or discussed in conferences, no information will be included that would reveal your identity.

PARTICIPATION AND WITHDRAWAL

Your participation is voluntary, anonymous and you may withdraw from the program at any time, without consequences of any kind (e.g., you will still participate in the programme's activities). You may also refuse to answer any questions you are reluctant to answer and still remain in the validation of the program.

ALTERNATIVES TO PARTICIPATION

Your alternative to participation is not to participate, but still being involved in the programme's activities.

However, if you do wish to participate, your contribution will be extremely valuable for the creation and implementation of future actions regarding sport and the promotion of school success.

SHARING INFORMATION

If you wish to receive information regarding the results of this study, please provide us with your email address:

CONTACT INFORMATION

If you have any questions or concerns about the research, please feel free to contact the Teacher responsible for the implementation of the program in the school:

NAME

ENTITY

I declare that I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this study.

Sociodemographic Characterization

For the validation of the present program and regarding the student in question, we would kindly ask you to fill the form with the following information.

Date: _____ / _____ / _____

Sex: F " M " Prefer not to say or respond " Other "

Age: _____

School year: _____

General Average Grade in the previous school year: _____

Nationality: _____

Currently, does the student suffer from any medical condition, whether physical or psychological?

Yes " No "

If you answered "yes", please clarify which one(s) and how long the student has been diagnosed:

How often does the student practice sports?

Never " Once a week " 2-3 times a week " +3 times a week "

If the student practices any kind of sport outside the school, which one(s) is it?

Does the student have any academic support outside school (e.g., private tutoring)?

Yes " No "

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