DELIVERABLE 1.2
INTERNAL EVALUATION FRAMEWORK INCLUDING RISK MANAGEMENT PLAN

SEEDS

VERSION V.2

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 101006251

VERSION CONTROL SHEET

- **Project summary**

Project acronym	SEEDS
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- **Document control**

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Reviewers	All partners
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- **Document revision history**

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ABBREVIATIONS

CoR	Gemeente Rotterdam
CSOs	Civil Society Organizations
EAB	External Advisory Board
EC	European Commission
ECSA	Verein Der Europaeischen Burgerwissenschaften - ECSA E.V.
EMC	Erasmus Universitair Medisch Centrum Rotterdam
EU	European Union
HUA	Charokopeio Panepistimio
IISPV	Fundació Institut d'Investigació Sanitària Pere Virgili
KPI	Key Performance Indicators
NGO	Non-Governmental organization
MORRI	Scientific Understanding and Provision of an Enhanced and Robust Monitoring system
MS	Milestones
QAP	Quality Assurance Plan
SEEDS	Science Engagement to Empower aDoleScents
STEM	Science, Technology, Engineering and Mathematics
SWAFS	Science With And For Society
UOE	University of Exeter
WP	Work Package
CS	Citizen Science
IG	Intervention Group
CG	Control Group

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EXECUTIVE SUMMARY

Science Engagement to Empower aDoleScents (SEEDS) aims at fostering science interest, literacy and STEM (Science, Technology, Engineering and Mathematics) education, by raising the health understanding, also pursuing the empowerment of youth in an extreme citizen science based on the participation of leader' adolescents in all the research process: identifying adolescents barriers and necessities for having a healthy lifestyles, designing a community-based public intervention for adolescents of low-socioeconomic areas and with stakeholders participation, interpretation of the data and dissemination to community.

In this document, the different achievements of SEEDS project were collected and shown throughout the life of the SEEDS project. This document was a live document with modifications; now, the final document is presented.

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1. INTRODUCTION

This deliverable entitled "Internal evaluation framework and Risk Management Plan" provides an update of the progress of SEEDS project until the reporting project's goals (effectiveness and quality), results and recommendations, and the management of the project's risks. The quality and progress of the SEEDS project are being monitored at various levels guided by specific material.

Furthermore, this deliverable was modified and updated throughout the project. It shows the security measures carried out for all project processes and the development of measures to address security issues by developing responses to incidents arising throughout the project, until December 2022.

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2. INTERNAL EVALUATION FRAMEWORK

2.1 Quality Assurance Plan (QAP)

The Quality Assurance Plan (QAP) was made to assure the quality and rigour of the project and is accessible in Deliverable 1.1. The QAP provides tools that were used throughout the duration of the project in accordance with the ISO 9001:2015(1) guidelines. The QAP establishes the objectives, processes and resources needed to deliver the results in accordance with participants' requirements and the organization's policies and identifying any obstacles or difficulties that could affect the successful implementation of the project.

The progress of the project was being monitored through the regular Consortium meetings carried out, deliverables and milestones finished and other indicators such as Key Performance Indicators (KPIs), MORRIs(2) (Scientific Understanding and Provision of an Enhanced and Robust Monitoring system) achieved.

2.2 Follow-up meetings

Regular Consortium meetings were organized to monitor the progress and discuss the problems identified in each Work Package Leaders (WPLs) and carried out using the Microsoft Teams Conference Tool.

Moreover, External Advisors were invited to attend the Consortium meetings scheduled on December 2021, February 2022, September 2022, October 2022 (Brussels exchange), and December 2022, to provide feedback on the project progress and research programme as part of the External Advisory Board (EAB) functions. The participation of the EAB in the meetings allowed us to receive suggestions from an external point of view for improving different aspects of the project.

During these 24 months, 37 consortium meetings and other meetings were scheduled including the PhD students meeting, the Ethical approval meeting, the WPLs meetings, the Dissemination & Communication (D&C) meetings and the review meeting. IISPV produced written minutes of each meeting with a record of all decisions taken that were sent to all members. All minutes were accepted by all partners within 15 days, when necessary, they were updated according to their comments.

The Grand Agreement included a general number of Consortium meetings regarding the tasks and steps of SEEDS project. Nevertheless, as the project was developed under the new situation caused by the COVID-19, other specific meetings were scheduled to adapt to the continuously changing circumstances. All the actions done to mitigate effects of COVID-19 situation, such as the delay in the recruitment and the focus groups were reflected in the Gantt Chart, approved by all partners and communicated to the EC through the amendment 101006251-4.

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2.3 Deliverables

All deliverables were controlled and revised effectively, including the template, identification, delivery process and quality. All of the 17 deliverables were completed and approved (Table 1). In the case of deliverables 3.1 and 4.1, there was a delay due to the pandemic situation.

The Deliverable 3.1 included the interventions designed by the participants based on the ideas obtained in the Makeathons. This deliverable was submitted later because the Makeathons were delayed. The Netherlands was in lockdown whereas in Greece, the United Kingdom and Spain some schools were confined.

The Deliverable 4.1 was not submitted in time due to COVID-19. This deliverable contained the final version of baseline questionnaire including:

- questions of each behaviour by validated questionnaires;
- questions about health determinants obtained from focus groups with ambassadors.

The focus groups were planned for June/July, but at that time the schools were overload due to the end of the academic school year and the new evaluation regulations. Because of that, the focus groups were held in September instead of June/July to obtain the health determinants needed to the questionnaire.

Table 1. List of Deliverables and their status.

Nª	Deliverable's title	State	Date
D1.1	Project Management Handbook	Approved	17/12/2021
D1.2	Internal evaluation framework including Risk Management Plan	Submitted	23/12/2022
D2.1	Guidelines for implementing the Makeathons	Approved	18/01/2022
D2.2	Toolbox for the design of SEEDS intervention	Approved	17/12/2021
D3.1	Intervention protocol and materials	Approved	31/12/2021
D3.2	Summary report on the SEEDS intervention implemented in each country	Submitted	15/09/2022
D4.1	Evaluation framework and evaluation protocol including SEEDS assessment tools	Approved	17/12/2021
D4.2	Report on the process and impact evaluation of the intervention	Submitted	21/12/2022
D5.1	Dissemination Strategy and Communication Plan	Approved	17/12/2021

D5.2	Reports on Dissemination and Communication	Submitted	23/12/2022
D5.3	Policy recommendations	Submitted	20/12/2022
D5.4	Exploitation and sustainability strategy	Submitted	23/12/2022
D6.1	Ethical management plan	Approved	17/12/2021
D6.2	Data Management Plan	Approved	17/12/2021
D6.3	Technical and organizational measures, for safeguarding the rights and freedoms of subjects plan	Approved	17/12/2021
D6.4	Security measures plan	Approved	17/12/2021
D7.1	POPD - H - Requirement No. 2	Approved	17/12/2021

2.4 Milestones

The Milestones (MS) were the control points where decisions were needed regarding to the next stage of the project and were used as a tool designed to monitor the quality and progress of the SEEDS project (Table 2). All milestones were achieved.

Table 2. List of Milestones and their status.

MS Nº	MS Title	State	Date
MS 1	Management bodies assigned, including AB	Approved	31/03/2021
MS 2	Recruitment process completed	Approved	03/07/2022
MS 3	Ethical approvals obtained	Approved	14/06/2021
MS 4	Focus group completed	Approved	27/09/2021
MS 5	Ambassadors (peer leaders trained)	Approved	17/12/2021
MS 6	Makeathons carried out in all pilot countries	Approved	17/12/2022
MS 7	Methodologies for the intervention available	Approved	16/03/2022
MS 8	Intervention implemented in all pilot countries	Approved	15/09/2022
MS 9	Data collected	Approved	30/09/2022
Ms 10	Final conference	Approved	18/10/2022

2.4.1 KPIs

KPIs serve as a measure of the achievements of the SEEDS project. These measures are shown in the table 3, which shows the impact of the action carried out by SEEDS local areas such as the number of students engaged, ambassadors who received a training and other relevant information related to the impact of the project. In addition, the table 4 shows the social impact, and the table 5 shows the engagement and communication activity.

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Table 3. Impact of the action

		IISPV	EMC	HUA	UOE	TOTAL
Number of adolescents trained as Ambassador from deprived areas (adolescents participant in the cocreation process)	120 (15 adolescents per country as ambassadors) - 60 ambassadors	21	19	18	16	74 (There are only ambassadors in intervention group)
Number of engaged adolescents from low-income communities	Minimum of 720 adolescents in total (180 per country)	452	236	281	347	1316
Total number of students engaged; estimation	720 adolescents	616	724	630	347	2317
Total number of adolescents reached, assuming a multiplying potential n=5 per engaged adolescent; estimation but considering an exponential growth	>3600 adolescents	1745	3100	3150	1800	9795
Total number of families engaged	>600 families	616	724	630	347	2317

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Total number of adult informal careers secondarily reached	>500	cannot be estimated	cannot be estimated	cannot be estimated	400	400
Total number of families reached; estimation	>2800 families	1745	3100	3150	1800	9795
Total number of business engaged	>30% of neighbourhood's business	5 fruit shops 2 Sports council 2 Freelance in health education Local market president	Sportbedrijf Youth workers at school Provider cooking lessons 2 Providers nutrition support 2 Projectleaders on exercise during breaks	-	1 - School Canteen	18 (it is not possible to have a percentage)
Total number of policy and decision-makers engaged	>10	21	16	8	6	51
Number of CSOs (e.g. NGO engaged)	>40	3	1	0	0	4 (during 2023 the information developed in the project will be sent to CSOs for their dissemination)

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Table 4. Social impact.

		IISPV	EMC	HUA	UOE	TOTAL
Enhanced engagement in education in teenagers living in deprived areas	Satisfactory; evaluated through qualitative methods	cannot be estimate from the results of the project				
Improved interest and motivation in STEM fields	+10% STEM interest survey; Science Capital Survey; Attitude towards STEM questionnaire Satisfactory; evaluated through qualitative methods (focus groups or workshops)	See deliverable 4.2 and 5.3. More results related to STEM are pending for publication during next year.				
Optimised academic outcomes in STEM fields	+10% Data provided by high schools involved	cannot be estimate from the results of the project				
Decreased school drop-out and Decreased rates or Early School Abandonment	-3% Data provided by high schools involved And -5% Data provided by high schools involved	0-2% without changes in 200-2022	0-2% without changes in 200-2022	3.8% in 2020-2021 3.2% in 2021-2022 (general drop-outs)	No school drop out and no school abandonment	0-3.8% drop-outs with minimum reduction.
Fostered self-management of health	+30% (average): PAQ-C; HBSC and Beverage	See deliverable 4.2 and 5.3. More results related to STEM are pending for publication during next year.				

	Frequency Questionnaire	
Education curricula including CS topics	Satisfactory; evaluated through the analysis of the changes in curricula of the High schools engaged in SEEDS as compared with others (control group)	There are no changes, pending changes from the dissemination of the project results in the next academic course (2022-2023)

Table 5. Engagement and communication activity.

SEEDS outreach		Total done
Adolescents: engagement rate	20%	☑ 1356 adolescents engaged (percentage cannot be estimated)
Families: engagement rate	18%	☑ 1356 families engaged (percentage cannot be estimated)
Policy and decision-makers engaged	>10	51 policy and decision-makers engaged
Public administration officers reached	>18	20 public administration officers reached
Related EU-funded projects	>10	SwafS Citizen Science working group: 22 EU-funded projects AURORA, https://www.aurora-h2020.eu/: CitieS-Health, http://citieshealth.eu/: CoAct, https://coactproject.eu/: Stefanie Schuerz COESO, https://coeso.hypotheses.org/: COMPAIR, https://www.wecompair.eu: Crowd4SDG, https://crowd4sdg.eu/: Francois Grey CS Track, https://cstrack.eu/: CSI-COP, https://csi-cop.eu/: Envirocitizen, https://www.envirocitizen.eu/: ECS, http://eu-citizen.science/: Claudia Fabó Cartas

		FRANCIS, https://www.francis-project.eu/: Renaud Bissling IMPETUS, https://impetus4cs.eu/about/the-project/: Gefion Thuermer, Antonella Passani INCENTIVE, https://incentive-project.eu/: MICS (measuring the impact of citizen science), mics.tools: Parky NEWSERA, https://newsera2020.eu/: PRO-Ethics, https://pro-ethics.eu/: Stefanie Schuerz REINFORCE, https://www.reinforceeu.eu/: ROSiE, https://rosie-project.eu/: SEEDS, https://seedsmakeathons.com/: SOCIO-BEE, https://socio-bee.eu/: STEP-CHANGE, https://stepchangeproject.eu/: TIME4CS, https://www.time4cs.eu/: YouCount, https://www.youcountproject.eu/: Reidun Norvoll
Researchers engaged	>50	✓ In total, 25 researchers were actively engaging in the SEEDS consortium over the past two years of which at least 3 PhD students
Offline dissemination and communication performance		
Attendance to non-academic fairs and events	>15	20 SwafS meetings over two years, platforming SEEDS and sharing ideas
Attendance to non-academic workshops and seminars	>20	23 (see table 5 in D5.2)
Attendance to EC events and info days	>4	5 1 ECSA & EU-Citizen.Science webinar: Introducing new citizen science projects launching in 2021; 1 Eu-citizen.science - virtual booth; 1 EU festival City of Rotterdam – panel discussion
Organisation of workshops	2	7
Dissemination materials designed:	>21	1 poster (5 languages); Leaflet: general public (5 languages); Conference banner (English; generic) Communication: presskit (5 languages) Dissemination kit: research (5 languages); 1 poster presented in a congress, Flyers (in English) designed to hand out at conferences (ISBNPA 2022 and Living Knowledge Conference 2022), flashcards for professionals, and flashcards for adolescents More information in deliverable 5.2

Press releases or press articles published	>10 (at least 2 per country)	2 (1 of them will be published in 2023) More information in deliverable 5.2
Non-peer reviewed articles in the specialised press published	>8	1 (more during 2023)
Journal articles, peer-reviewed, published	>4	Only the protocol could be submitted before the end of the project. There are 8 research articles in progress.
Peer-reviewed articles after the project end	>4	Pending
Attendance to conferences and congresses	>20 (>10 with article/proceeding published)	23 More information in deliverable 5.2
PhD or MSc Dissertations (ongoing or published)	PhD or 4 MSc	3 PhD student ongoing
Attendance to Scientific workshops or special sessions	10	20 SwafS meetings over two years, platforming SEEDS and sharing ideas
Online communication performance		
Social media: engagement rate (general)	12 3,8%	Average engagement rate 0.808%: What is a good Twitter engagement rate? The median engagement rate on Twitter is 0.037%. Anything higher than 0.037% is considered a good result.
Twitter engagement	>2%	261 followers average of 4000 monthly impressions engagement rate 0.808 calculated with

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		Mention's Twitter Engagement Calculator (https:// mention.com/en/ twitter-engagementcalculato)
Facebook engagement	>3,5%	No facebook
Instagram engagement	>8%	No instagram
Twitter: followers	500	261 followers
Facebook: fans	250	No facebook
Instagram followers	700	No instagram
Website visitors	120 per day (mean 3y)	90 visits/month

2.4.2 MORRIs

These indicators are used to assess and monitor responsible research and innovation from the Expert Group on policy indicators for responsible research and innovation. (2)

2.4.2.1 Gender Equality

The table 6 shows the gender Equality of the participants and ambassadors of SEEDS project.

Table 6. Gender Equality.

	EMC	**HUA**	**IISPV**	**UOE**
Ambassadors males	3	5	7	7
Ambassadors females	16	13	13	9
Ambassadors Non-binary gender	0	0	1	0
All participants (males)	16	121	219	153
All participants (females)	44	157	206	152
All participants (Non-binary)	0	2	6	10

2.4.2.2 Science Literacy and Science Education

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The science literacy and science education are summarised up in tables 7 and 8, the second showing the engagement of stakeholders.

Table 7. Science Literacy and Science Education.

		EMC	HUA	IISPV	UOE
Pair scientific excellence with social awareness and responsibility	Impact on knowledge	See deliverable 4.2 and 5.3			
	Impact on health	See deliverable 4.2 and 5.3			
Importance of societal aspects of science in science curricula	Number of lifestyle aspects in the curricula	--	--	2 themes of 30 total themes [i]	--
	Identify all school curricula aimed at adolescents: whether biology and physical activity curricula have nutrition and healthy lifestyles' lessons.	Healthy school canteen, cooking workshops, lessons about nutrition (part of the direction "care & well-being"), PE classes, extra PE for sport-classes, extracurricular/after school sport activities, social sports project, sportsday, lessons "tech & future", short internship to a youth incorporating company	--	Physical activity "Physical fitness and health" [ii] Biology Food and nutrients. Related diseases. Sexual health and hygiene. Reproductive function. Related diseases. Sexual health and hygiene (2 themes of 30)	--
	Re-counting of hours implemented of nutrition and healthy lifestyles in our class.	~ 2.5 h/week of PE class in general in NL	--	~ 4 h/week	--

	Contact an expert (in the ministry): S/he will be contacted -through an interview with department of education of different countries in order to validate our findings.	--	--	1 interview with Education Department of Tarragona Province Territorial Services	--
Scientific or other types of publications should be foreseen	*Table of publications (WP5)*	At least 4 publications lead (protocol paper is submitted, currently (nov 2022) working on systematic review and 1 focus group paper with stakeholders)	At least 1 publication lead about effectiveness	3 publications lead (systematic review, scoping review and interventions comparison)	At least, 2 publications lead (focus groups with adolescent, cross-sectional STEM and healthy lifestyles)
Science communication culture	This impact will be measured by assessing the availability	-	-	-	-
Citizen science activities in Research Performing Organizations		Internship of two ambassadors at EMC	-	European research night and Radio programmes "Science waves"	-
Quality education	Develop recommendations for school curricula to include more participatory science education to promote interest in STEM as well	- SCOPING review - Systematic review - Booklet for high schools with best practices of SEEDS - Deliverable 5.3: Policy recommendations and lessons learned			

	as healthier lifestyles.	

Table 8. Stakeholders engagement.

		EMC	HUA	IISPV	UOE
The number and type of engaged stakeholders is monitored throughout the project, including at each event.	Focus groups	11	6	10	2
	Makeathons	5	2	11	4
	During the project	2 x project leaders 'LekkerFit' City of Rotterdam 2 x Advisors Healthy School Canteen 1 x Expert cooking workshops 1 x Youth workers at school Teachers	--	10 Instructors 1 Education department 4 Parents associations 8 Teachers	6 school teachers and 1 STEM charity

2.4.3 Impact

The table 9 shows the impact on the action of students and ambassadors engaged to SEEDS project.

Table 9. Impact on the action.

IMPACT ON THE ACTION	EMC	HUA	IISPV	UOE	TOTAL
Number of adolescents trained as Ambassador from deprived areas (adolescents participant in the cocreation process)	19	18	21	17	**75**
Number of engaged adolescents from low-income communities (intervention adolescents with informed consent)	263	148	185	324	**920**

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The satisfaction was assessed through a qualitative method at the end of the Makeathons. The method was based on a vote that assessed the enjoyment and the process of co-creation using boxes with the questions showed in the Table 10. The votes were subsequently recounted and are shown in the Table 11 too.

Table 10. Satisfaction of the adolescents in the Makeathon participation

Adolescents reaction of two final questions				
Question 1: enjoyment	**EMC**	**HUA**	**IISPV**	**UOE**
I really liked to participate in the Makeathon	14	13	15	8
I liked to participate in the Makeathon	8	4	8	9
I didn't mind to participate in the Makeathon	2	1	7	0
I didn't like to participate in the Makeathon	0	0	1	0
I really disliked to participate in the Makeathon	0	0	3	0
Blank vote	0	0	4	0
TOTAL PARTICIPATION	**24**	**18**	**34**	**17**
Question 2: co-creation				
My opinions have been taken very seriously at the Makeathon	12	15	19	8
My opinions have been taken seriously at the Makeathon	5	1	4	9
I feel indifferent as how my opinions have been taken at the makeathon	4	2	9	0
My opinions have not been taken seriously at the Makeathon	2	0	1	0
My opinions have not been respected at the Makeathon	0	0	1	0
Blank vote	0	0	4	0
TOTAL PARTICIPATION	**23**	**18**	**34**	**17**

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3. RISK MANAGEMENT PLAN

The Security Plan was designed to enhanced and maintain the security of all processes of the project by assessing a site for security risks, developing measures to address security issues by incorporating current security programs and developing new ones if necessary, and formalizing responses to and reporting procedures for security incidents. The risk management plan shows the measures taken against the appeared risks.

3.1. Foreseen risks

3.1.1 Delays in the Ethical approval in each country

The ethical approvals were delayed in some countries because, under the current circumstances, the work effort required to apply the data protection and ethical rules was higher than expected.

- IISPV had to improve the report presented to the Ethics Committee clarifying or explaining in deep some points such as the data protection, and request permission from the Department of Education in order to enter into high schools. This process delayed up to 3-months the focus groups implementation.
- HUA had to apply for ethical approval at Ethics Committee of Harokopio University, as well as to get the approval for entering high schools and implement the SEEDS program by the Ministry of Education. There was a total delay of 2 months in getting the latter approval.
- The UK research team had to apply 3 times for ethical permissions for each stage of SEEDS project which delayed up to 3-months the completion of the focus groups.

Moreover, some amendments were implemented for the Ethics when it was necessary:

- For explaining the intervention, due to the approval of the SEEDS project had different phases:
  - First phase → explaining the project: recruitment of adolescents, questionnaire used, focus groups, co-creation process, etc. However, HUA and UoE divided this phase in two because first they explained only the recruitment of adolescents, the questionnaire and the focus groups and after they explained the co-creation part.
  - Second phase → after co-creation of the intervention, the final intervention was presented to the Ethics Committee in order to obtain their approval.
  - Third phase → For extra questions in the questionnaire: regarding the opinion of ambassadors, feelings of this role.

3.1.2 Problems with target groups engagement/recruitment and involvement for the implementation

Throughout the project, there were some problems related to the involvement of the target groups. Some countries dealt with difficulties in recruiting schools placed in the area under study. IISPV had problems because schools were scared due to the pandemic situation and did not want any

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commitment for the next academic course (2021-2022). Because of this, all partners agreed to extend the recruitment area to allow more schools to join SEEDS in accordance with the SES (Socioeconomic Status) protocol previously established, that is to say, each country used official indicators to recruited high schools located in low-income or deprived neighbourhood areas (specified in more detail in deliverable 3.1 and in the SEEDS protocol scientific publication).
Furthermore, in Spain the number of students per high school is not as high as in other countries so that IISPV had to recruit the maximum number of high schools to achieve the sample size. In case of EMC, the schools were in lockdown from the beginning of 2021 until April 2021. Therefore, they started to recruit in April. However, they expanded the recruitment area and achieved the high schools needed. Finally, HUA exposed that pandemic made schools reluctant to participate in the project, since the workload and the safety protocols did not allow for much time and effort to be invested in other activities beyond the scheduled obligations.

Another problem was the number of participants recruited, as the sample size was not reached by the end of the recruitment period. In the case of HUA, the pupils were not enthusiastic about the project. Due to that, they had to carry out multiple informative visits to recruit participants. UOE owing to the restrictions of the pandemic make it harder to complete each meeting to recruit participants and obtain the informed consent. For this reason, all partners agreed to extend the recruitment period until the end of February 2022.

At the end of the intervention, during the final assessment of adolescents, most of the partners had the same problem, they had difficulties in the collection of final questionnaires answered by adolescents. Some problems were:

- The high schools were in exam periods, and they did not have availability to save 1 hour per class (in order to give time for answering the questionnaire).
- Many adolescents did not want to answer the questionnaire, because it was long.
- Many high schools allowed the students to only go to high schools during exam hour, so that, adolescents were at home, and they could not answer the questionnaire.
- Some adolescents, changed the high-school, and they were considered as a drop-out of the SEEDS project.

3.1.3 Implementation differences due to different starting points in each country

Due to the delays in the Makeathons and in the recruitment caused by COVID-19, some countries had to postpone the implementation of their interventions. Even so, IISPV supported and empowered different partners to achieve the minimum sample size to be in line with the project's objectives and milestones. For this reason, IISPV and HUA started their interventions at the end of January while EMC and UOE started them at the end of February 2022.
During the intervention, some activities of intervention had small delays for example, Sport day of Spanish intervention. One intervention high schools preferred to do this activity the week before

Easter. But all activities could be implemented during the intervention months. The implementation of activities is detailed in deliverable 3.2.

3.1.4 COVID-19 new outbreak or social media distance maintained

COVID-19 had an impact in schools affecting the recruitment of participants and delaying the due date of different parts of the project as the academic year finished earlier than expected. For this reason, extra efforts were made to enable fluid communication with schools and achieve their participation beyond their academic course (June to August). Moreover, in some countries, the focus groups were adapted and implemented online due to the restrictions of COVID-19 that did not allow to perform them in person at high schools.

Regarding social media, we could not use Instagram due to some technical issues and our participants are minors of 16 years old. At the same time, one of our project's aims was to reduce sedentary time and the screen time. In the risk management plan, other risks are considered and the measures to be taken in the event of such an occurrence are detailed.

3.1.5 Small financial deviations from planned budgets

The initial effort estimation was thoroughly thought to provide appropriate budget to each task and partner and each partner sends interim technical and financial reports when requested, so to keep smooth and regular communication with partners and discuss any potential financial barrier was allowed to tackle it as soon as it is identified.

3.1.6 Possible contamination of control group

The main objective of SEEDS' design is to ensure the inter-comparability of both groups (Intervention Group (IG) and Control Group (CG)), and the comparability and scale-up at the EU level by transferring results between intervention sites. There is potential contamination among schools due to the communication through them. For this reason, measures for ensuring the minimal contamination were put in place, but also considering the Citizen Science (CS) nature and the role that this contamination would play in optimising the project outreach at long-term.

3.1.7 Other foreseen risks

Apart from the foreseen risks contemplated, other risks were considered and mitigations measures were applied:

- Difficulties in communication and coordination with project partners involved: for example, in especial occasions, in order not to misunderstand any issue, an emergency online meeting was conducted, because the communication by emailing was not enough to clarify the points to discuss, such as the recruitment of adolescents.

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- Sub-optimal D&C performance in engaging stakeholders: the COVID-19 situation increased its impact, as stakeholders could not interact with adolescents, because they did not belong to the same "bubble". The risk of contamination of control high schools, which was necessary in a randomized control trial to show the differences with the IG, had limited the D&C as the project results were not shared to avoid that contamination until the last months of the project.

Other risks considered despite not having yet occurred:

- Problems may arise publishing papers and articles in scientific Journals or Conferences (proceedings).
- Low sample size due to potential drop-out during the intervention.

3.2 Unforeseen risks

3.2.1 Problems with target groups engagement/recruitment and involvement for the implementation

Firstly, partners had difficulties with recruiting schools in the nearer area. IISPV proposed to have a wider recruitment area, allowing other schools to join SEEDS. Secondly, some partners had problems due to the lockdown because the access to high schools was not possible.

As a result, obtaining the informed consents, implementing the Makeathons, and carrying out the questionnaire surveys experienced a delay. For the reasons exposed, IISPV suggested a longer recruitment period until February 2022 in order to achieve the necessary number of informed consents and questionnaires. Moreover, IIPV suggested an extension of the timeline to implement the Makeathons.

3.2.2 COVID impact in schools affecting recruitment of participants

The recruitment of participants was affected due to the priority of high schools was to not close because of COVID-19, to maintain safe their pupils and to not overwhelm their faculty. Moreover, in some countries, a mandatory permission to carry out projects in high-schools was implemented after the first lockdown by the Ministry of Education. Some countries were in lockdown during the recruitment period and there were strict measures during the implementation period of the Makeathons, which led to delays in both cases. For all this, it was decided to provide extra time to some partners and adapt to the new circumstances. The time given to carry out the makeathons was two months, so all makeathons were done by the end of December. One of the actions taken was to hold the makeathons in a hybrid format in The Netherlands, so that, researchers were connected through a virtual platform at EMC while adolescents were connected at high schools.

3.2.3 The school year finished before the expected date

The Focus Groups were expected to take place in summer (June/July 2021). However, the school year finished before and school's workload was increased due to new evaluation regulations and the delays in the organisation of the school year due to COVID. As a result, the focus groups were organized in September 2021 instead of carrying them out in June/July 2021.

Despite that, some partners were able to perform the focus groups on due time. HUA was able to organize the focus groups in May and IISPV could conduct 1 stakeholders' focus groups and 1 focus groups with ambassadors in July, and another focus group with ambassadors in September.

3.2.4 Brussels exchange

Brussels exchange was designed for being at the end of November 2022, nearly the end of the project, but due to the holidays of different countries, the Brussels exchange was in October 2022. This exchange had different problems solved:

- No availability of a cheap building to do the exchange → the exchange was moved to Leuven city, in IMEC.
- All adolescents of pilot countries were stayed in Brussels city → an extra bus was booked to go to Leuven from Brussels (30 minutes), and coming back to Brussels.
- Some adolescents could not do the exchange due to they did not have the permission of their parents. At the end, from 74 ambassadors, 46 could join the Brussels exchange.
- Some countries had to book an extra buss from the town of adolescents to the airport.

Although these problems, the Brussels exchange was conducted with totally effectiveness.

3.2.5 Communication campaigns

Communication campaigns are another aspect of the project that was really affected by the COVID-19 situation. IISPV contacted the local press to attend the Makeathon held at the Faculty of Medicine in Reus, but they did not attend due to unknown reasons. No major dissemination campaigns were conducted to avoid contamination of the control group during the intervention, as previously explained. However, from June 2022 onwards, the Consortium tried to increase the impact of the project results.

Besides, other options for dissemination were explored for the SEEDS project. A factsheet was created as part of the dissemination plan and also communal presentations that were used in the Makeathons, both of which were used to disseminate SEEDS and the Makeathon process to teenagers, teachers, parents and stakeholders. SEEDS team also shared the SEEDS citizen science process with research areas outside CS. SEEDS team carried out a workshop for the International Society of Behavioral Nutrition and Physical Activity (ISBNPA) which is one of the largest conferences in this area. SEEDS team also ran an online webinar promoting SEEDS and other EU projects to the European Citizen Science communities.

Regarding social media channels Twitter had an increase on traffic after the makeathons, the followers doubled, and our impressions jumped to (32,500) and out website . The media

generated in the Makeathons and the Interventions is used to promote the empowerment of teenagers and to highlight their contributions to the SEEDS project through blogs on the website.

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4 CONCLUSIONS

This deliverable considers the risks that can be arise during the SEEDS project. Moreover, in this deliverable, a collection of different impact of results, such as KPIs, MORRIs, social impact, etc. is specified in the tables presented.

The SEEDS project had a high involvement of young people, who received different activities designed from a co-creation process, and these activities reached the initial expectations. Furthermore, during the life of the project, potential stakeholders participated in the different phases of SEEDS, since focus group to makeathons, and they could help youngers giving ideas or advices.

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