



D4.3: POST-TEST DATA



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 732420.

This communication reflects only the author's view. It does not represent the view of the European Commission and the EC is not responsible for any use that may be made of the information it contains.

Task 2.1- Definition of main topics and performance indicators (construction of metrics)

Contract number:	732420
Project acronym:	e-Confidence
Project title:	Confidence in behaviour changes through serious games
DELIVERY DATE	31/07/2018
Author(s):	Tamara Martinac Dorčić, Barbara Rončević Zubković, Svjetlana Kolić-Vehovec, Sanja Smojver-Ažić
Partners contributed:	P5 – USAL
Date:	27/07/2018
Version:	1.0
Abstract:	<p>This document presents the main data about the variables collected in the post-test in ten European schools. This report seeks to meet the following objectives:</p> <ul style="list-style-type: none"> - To describe database preparation - To present information on the number of students that participated in gaming sessions and in post-test - To compare the Spanish and English-speaking samples in all post-test variables
Status:	<p>X PU (Public)</p> <ul style="list-style-type: none"> • PP Restricted to other programme participants (including the Commission Services) • Restricted to a group specified by the consortium (including the Commission Services) (please specify the group) • Confidential, only for members of the consortium (including the Commission Services)



DOCUMENT REVISION LOG

VERSION	DATE	DESCRIPTION	AUTHOR
0.1	05/07/2018	The draft contains information about post-test results.	FHSS
0.2	19/07/2018	Input from USAL	
0.3	23/07/2018	Revised draft	FHSS
0.4	27/07/2018	Input from EUN and Everis	
1.0	27/07/2018	Final version	FHSS



2. CONTENT

DOCUMENT REVISION LOG	3
2. CONTENT	4
3. INTRODUCTION	5
4. DATABASE PREPARATION	6
5. NUMBER OF STUDENTS	7
6. DESCRIPTION OF VARIABLES AND MEASUREMENT INSTRUMENTS.....	10
7. DESCRIPTIVE STATISTICS OF VARIABLES IN SPANISH AND ENGLISH SPEAKING SAMPLES15	
7.1. POST TEST: DEPENDENT VARIABLES	15
7.2. POST TEST: GAME EXPERIENCE AND GAME QUALITY.....	20
8. CONCLUSIONS	26
9. REFERENCES	28
ANNEX I. POST-TEST QUESTIONNAIRE FOR EXPERIMENTAL CONDITIONS	30



3. INTRODUCTION

The games we have designed must be assessed in order to determine their effectiveness in the development of training competencies, specifically to stimulate good behaviours related to the issues teenagers have to deal with (bullying and digital safety). With this aim, we have planned a pilot study that includes the implementation of a pre-test questionnaire. With this survey, we can measure the variables related to the characteristics of the youth that we are interested in knowing and modifying, and then, after conducting the gaming sessions (experimental group), measure them again through a post-test questionnaire and analyse the changes that have taken place in our sample of children.

This document presents the main data about the variables collected in the post-test in ten European schools. This report is structured in three central parts and seeks to meet the following objectives:

- To describe database preparation
- To present information on the number of students that participated in gaming sessions and in post-test
- To compare the Spanish and English-speaking samples in all post-test variables

Post-test Application

As pre-test, the post-test survey has been conducted in the same 10 schools, five of them from Spain, and the other five from English-Speaking countries (three in Malta, one in UK and one in Ireland). During the pre-test questionnaire, we have not made a difference among students in the experimental and control groups, performing all pupils the surveys at the same time. The post-test application has been carried out in May and June 2018 in all schools. The average time taken for the application of the questionnaire has been one hour. The post-test questionnaire included the same questions as pre-test, excluding variables describing the sample and game experience. Additionally students in experimental groups answered the questions regarding game experience and game quality.

The post-test questionnaires were filled using the Xtend platform, created and managed by EVERIS, who ensured the user's data confidentiality in order to provide anonymity.

Studied variables and data analysis

The variables analysed in the post-test have been classified into four sections. The first one refers to the assessment of game experience and game quality (for experimental groups). The second



part comprises the knowledge and target behaviours, regarding the use of the Internet and bullying. The third one includes variables on Theory of Planned Behaviour (TPB): attitudes, perceived behaviour control and self-efficacy, subject norms and behaviour intention. The fourth part refers to personal variables: social skills, assertiveness, empathy, and friendship.

These variables have been selected for their importance and influence in the development of positive or negative behaviours on the subjects studied: bullying and the safe use of the internet, and have been described in D2.1: *Information dossier on researched topics and indicators to assess the educational possibilities of the videogames.*

Regarding the data analysis, it was decided to independently present the results obtained in the sample of Spanish students and, the results of the English-speaking students, in order to facilitate to make comparisons between the different social and educational contexts. The results obtained in the pre-test (D4.2., section 6.4) showed that Spanish and English speaking samples differ in several variables: knowledge about bullying, bullying victimization and bullying behaviour, control and subjective norms related to protecting the victim, knowledge about safe use of internet, attitude towards safe use of internet, tendency to passive reactions in social situations, empathy and social skills.

Normality test on the pre-test data (using two statistics, Kolmogorov-Smirnov and Shapiro-Wilk) showed a non-normal distribution of the data in the majority of variables. Therefore, differences of means between Spanish and English-speaking samples were tested through the Mann-Whitney's U statistic. The differences between experimental and control groups in the post-test will be presented in deliverable D5.3. as part of the analyses of the differences between pre and post-test.

4. DATABASE PREPARATION

In this part of the document we will shortly describe the procedure of integrating data from pre and post test and transferring them into SPSS database.

Data for each school was provided from Xtend platform separately, in Excel format. The first step was to import the data from each school into one SPSS file and merge the records from all ten schools. Then, variables names were renamed to make them more meaningful. Some variables needed to be recoded. Next step was to create composite variables – to get indicators of all key performance indicators for post-test. This was done for pre-test record in January and for post-test records in June. Finally, pre and post data were merged using username as key variable. The username referred to student pseudonym from the platform account and it was not in any way



related to participant personal identification as all data were anonymized before entering the platform.

Additional data obtained from the Xtend platform (game play duration, scores, information about completing the game) were also merged from separate files using the same procedure (Username as a key variable). Matching between pre-and post data was double checked using ID variable. All inconsistencies (i.e. two cases with same ID) were resolved. Detailed description of database will be provided as a part of D7.1. Data management plan.

5. NUMBER OF STUDENTS

The pre-test was conducted on two student samples: Spanish speaking sample and English speaking sample. In the pre-test results form 180 Spanish and 169 English-speaking students were analyzed and shown in D4.2. Several students from English-speaking schools responded to the pre-test survey after pre-test analysis was done. In following tables the final number of students that participated in the pre-test, gaming sessions, and post-test in Spanish (Tables 5.1., 5.2., and 5.3.) and English speaking schools (Tables 5.4., 5.5., and 5.6.) is shown, taking students' gender into account.

Table 5.1. Frequency of female and male students in Spanish sample participating in the pre-test

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**		Control Group	
	f	%	f	%	f	%	f	%
Female	86	47.8	26	42.6	32	53.3	28	47.5
Male	94	52.2	35	57.4	28	46.7	31	52.5
Total	180	100	61	100	60	100	59	100

*will play School of Empathy

**will play Go Online

Table 5.2. Frequency of female and male students in Spanish sample participating in the experimental phase (gaming sessions)

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**	
	f	%	f	%	f	%
Female	57	47.5	25	41.7	32	53.3
Male	63	52.5	35	58.3	28	46.7



Total	120	100	60	100	60	100
-------	-----	-----	----	-----	----	-----

* play School of Empathy

** play Go Online

Table 5.3. Frequency of female and male students in Spanish sample participating in the post-test

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**		Control Group	
	f	%	f	%	f	%	f	%
Female	81	46.8	24	40.7	31	52.5	26	47.3
Male	92	53.2	35	59.3	28	47.5	29	52.7
Total	173	100	59	100	59	100	55	100

* played School of Empathy

**played Go Online

In Spanish sample, one pupil assigned to experimental condition didn't play the game (School of Empathy). Two students from experimental groups (one in each group) and four students from the control group did not complete the post-test.

Table 5.4. Frequency of female and male students in English speaking sample participating in the pre-test

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**		Control Group	
	f	%	f	%	f	%	f	%
Female	102	57.9	33	55.9	33	55	36	63.1
Male	74	42.1	26	44.1	27	45	21	36.9
Total	176	100	59	100	60	100	57	100

*will play School of Empathy

**will play Go Online

Table 5.5. Frequency of female and male students in English speaking sample participating in the experimental phase (gaming sessions)

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**	
	f	%	f	%	f	%
Female	64	54.7	32	55.2	32	54.2
Male	53	45.3	26	44.8	27	45.8



Total	117	100	58	100	59	100
-------	-----	-----	----	-----	----	-----

* play School of Empathy

** play Go Online

Table 5.6. Frequency of female and male students in English speaking sample participating in the post-test

Gender	Complete Sample		Experimental Group 1*		Experimental Group 2**		Control Group	
	f	%	f	%	f	%	f	%
Female	95	56.5	30	53.6	31	54.4	34	61.8
Male	73	43.5	26	46.4	26	45.6	21	38.2
Total	170	100	57	100	58	100	55	100

* played School of Empathy

** played Go Online

In English speaking sample, one pupil assigned to experimental group 1 (School of Empathy) and one pupil assigned to experimental group 2 (Go Online) didn't play the game. In total, eight pupils from English speaking sample did not complete the post-test. Six of them were assigned to experimental groups (three to School of Empathy and three to Go Online) and two were assigned to control groups.

To conclude, there was a small attrition of students from pre-test to post test. Since the study design was longitudinal that was expected and taken into account when defining initial sample sizes. Attrition was similarly distributed across samples (Spanish and English speaking) and different conditions (groups).

The number of students who report finishing the game in Spanish sample is shown in Table 5.7. and in English speaking sample in Table 5.8.

Table 5.7. Frequency of students reporting finishing the game in Spanish sample

Gender	Complete Sample		School of Empathy		Go Online	
	f	%	f	%	f	%
Finished	71	60.2	36	61	35	59.3
Not finished	47	39.8	23	39	24	40.7
Total	118	100	59	100	59	100



Table 5.8. Frequency of students reporting finishing the game in English speaking sample

Gender	Complete Sample		School of Empathy		Go Online	
	f	%	f	%	f	%
Finished	77	67	37	64.9	40	69
Not finished	38	33	20	35.1	18	31
Total	115	100	57	100	58	100

According to self-reports similar number of students finished both games (around 60%) in Spanish sample, whereas in English speaking sample 65% of students finished School of Empathy and 69% of students finished Go Online game. These data are not in accordance with reports obtained from the Xtend platform. According to these records, only about 20% of students finished the game.

6. DESCRIPTION OF VARIABLES AND MEASUREMENT INSTRUMENTS

In this paragraph we will briefly describe main target constructs (safe use of internet and bullying), as well the variables related to the Theory of Planned Behaviour (TPB), and personal variables that were assessed both prior and after the gaming experience. Additionally, variables measured only in post-test in experimental groups will be shortly described (game experience and game quality). Analysed variables and corresponding instruments are presented in Table 6.1. The theoretical range was also presented for each scale. In cases where the reliability analysis showed that some items from original scale reduce internal consistency of the entire scale, results on a shorter version of the scale were reported (e.g. attitudes), in accordance with D5.2. (Item analysis) conclusions.



Table 6.1. Measurement instruments applied in the post-test

VARIABLE	ITEMS/SCALES	RANGE
INSTRUMENTS FOR MEASURING KNOWLEDGE AND BEHAVIOUR		
Knowledge and behaviour about safe use of internet	The questionnaire is composed by 16 items of multiple choices (3 response alternatives) that presents fictional situations related with the safe use of the internet. The content of these situations is included in the serious game. The items are grouped thematically according to the seven dimensions of the safe use of internet.	Knowledge 0-16
Knowledge about bullying	The questionnaire is composed from the vignettes inspired by Costley and Han study (2013). We asked students about recognizing bullying situations and about appropriate reactions in 8 bullying situations (6 describing bullying and 2 no-bullying situations).	Recognition 0-16 Appropriateness 0-48
Bullying behaviour	We have used a three global items from the revised Bully/Victim Questionnaire (Olweus, 1996): “How often have you been bullied at school in the last couple of months?”, “How often have you bullied others at school in the last couple of months?” and “How do you usually react if you see or learn that a student your age is being bullied?”.	Victimization 5-25 Bullying behaviour 5-25

INSTRUMENTS FOR MEASURING VARIABLES FROM THEORY OF PLANNED BEHAVIOUR (TPB) FOR SAFE USE OF INTERNET AND BULLYING		
Attitudes	<p>The attitude of the students towards the safe use of internet is defined as the feeling of favourableness or unfavourableness regarding the development of protocols of safe navigation. To measure this construct, we have used 4 items adapted from the proposal by Taylor and Todd (1995): <i>Using the internet in a safe way is a beneficial habit; I like the idea of making a safe use of the internet.; Making a safe use of the internet is a good idea; and Making a safe use of the internet is a smart idea.</i> This items are part of a 5-point Likert-type scale (1 - strongly disagree to 5 - strongly agree).</p> <p>The students’ attitudes toward bullying have been assessed by separately rating their evaluation of bullying (<i>For me, bullying is...</i>) and protecting the victim (<i>For me, protecting the victim is...</i>) by means of the following six semantic differential 7-points scales: Bad – Good, Harmful – Beneficial, Worthless –Useful,</p>	<p>Safe use of internet 4-20</p> <p>Bullying 4-28</p> <p>Protecting the victim 5-35</p>



	<p>Weak-Powerful, Safe-Unsafe, Foolish-Wise. The scales are shortened according to the results of the reliability analysis (4 items for bullying and 5 for protecting the victim).</p>	
<p>Perceived behavioural control and self-efficacy</p>	<p>To measure these two variables regarding the safe use of internet, we had three items to measure the perceived behavioural control (<i>Using the internet in a safe way is entirely within my control; I have the resources and the knowledge and the ability to make use of the internet with safety; I would be able to use the internet safely.</i>) and another three to measure the self-efficacy (<i>I would feel comfortable using the internet safely on my own; If I wanted to, I could easily make a safe use of the internet; I could use the internet safely, even if there was no one to help me.</i>).</p> <p>The perceived behaviour control and self-efficacy regarding bullying has been assessed with the questionnaire that contain three items that measure perceived behavioural control on protecting the victim (<i>Whether I would protect the victim is not entirely up to me; It is mostly up to me whether or not I would protect the victim; Whether I would protect the victim is not entirely up to me</i>) and three items that measure self-efficacy for protecting the victim (<i>I am confident that I could protect the victim; I can easily protect the victim if I want to; It is easy for me to protect the victim of bullying</i>). Only one item from control scale was used in further analysis because of the low reliability of the scale.</p>	<p>Safe use of internet- control 3-15</p> <p>Safe use of internet – self-efficacy 3-15</p> <p>Protecting the victim – Control 1-5</p> <p>Protecting the victim – self-efficacy 3-15</p>
<p>Subjective norms</p>	<p>The subjective norm for Safe use of internet has been assessed with three items aimed at peer influence and superior influence (<i>My friends think that I must make a safe use of the internet; My teachers consider that I should use the internet safely; My friends think that I must make a safe use of the internet</i>).</p> <p>The subjective norm for bullying has been assessed for target behaviour of protecting the victim. The scale consists of three items using the same pattern as in safe use of internet scale (<i>In my school, students protect the victims of bullying; Most people who are important to me think that is good idea to protect the victim; I feel that my friends want me to protect the victim</i>). Subjective norms have been assessed using 5-point Likert scales with item responses ranging from 1 (strongly disagree) to 5 (strongly agree).</p>	<p>Safe use of internet 3-15</p> <p>Protecting the victim 3-15</p>



Behavioural intention	<p>The TPB questionnaire regarding the safe use of the internet has three items to measure the behavioural intention (<i>I plan to use the internet safely with frequency; I will make a safe use of the internet in the future; I intend to make a safe use of the internet to do my homework</i>). As the previous dimensions, the items have been adapted from the proposal by Taylor and Todd (1995) and have been measured using 5-point Likert scales with item responses ranging from 1 (strongly disagree) to 5 (strongly agree).</p> <p>The behavioural intention for the bullying behaviour have been assessed with the questionnaire that contain three items aimed as measuring behavioural intention to protect the victims of bullying (<i>I intend to protect the victim if I witness bullying; There is a chance that I will protect the victim in bullying situation; I want to protect the victim.</i>) Students rate their intention on 5-point Likert scales with item responses ranging from 1 (strongly disagree) to 5 (strongly agree).</p>	<p>Safe use of internet 3-15</p> <p>Protecting the victim 3-15</p>
-----------------------	---	--

INSTRUMENTS FOR MEASURING PERSONAL VARIABLES		
Assertiveness	We used 8 situations from Children's Assertive Behaviour Scale (CABS, Michelson & Wood, 1982). Scale included items from different groups of social skills. The scale consists of three subscales: Assertive reactions, Aggressive reactions, Passive reactions.	<p>Assertive 0-8</p> <p>Aggressive 0-16</p> <p>Passive 0-16</p>
Empathy and compassion for victim	<p>We used 6 items from Bryant' Empathy Index for Children and Adolescents (Bryant, 1982) that relate to responsiveness to another person's sadness, which could be important when witnessing bullying situation. Students answered on a 5-point Likert scale on following items: <i>Seeing a boy who is crying makes me feel like crying; It makes me sad to see a boy who can't find anyone to play with; It makes me sad to see a boy who can't find anyone to play with; I get upset when I see a girl being hurt; I get upset when I see a boy being hurt; Seeing a girl who is crying makes me feel like crying.</i></p> <p>Additionally, compassion for the victim was assessed in eight situations used to assess knowledge about bullying by using the question <i>Would you feel the compassion for the boy/girl...?</i></p>	<p>Empathy Index 6-30</p> <p>Compassion 0-16</p>
Friendship	We used five questions from Positive Interaction subscale of The Friendship Questionnaire (Bierman &	



	<p>McCauley, 1987) referring to interactions typical for school setting (<i>Do you have best friend at school?; How many friends do you have in school?; Is there someone you play at recess?; Is there someone who asks you to play at recess?; Is there someone you sit on the bus or walk to school with?</i>). The first two questions are analysed separately, and last three as a scale.</p>	<p>Friendship scale 3-15</p>
Social skills	<p>We applied only 8 items from Appropriate social skills subscale of The Matson Evaluation of Social Skills with Youngsters (MESSY, Matson et al., 1983). Students answered on a 5-point Likert scale on following items: <i>I help a friend who is hurt; I ask if I can be of help; I feel good if I help someone; I do nice things for people who are nice to me; I cheer up a friend who is sad; I stick up for my friends; I look at people when they are speaking; I feel sorry when I hurt someone.</i></p>	<p>Social skills 8-40</p>

INSTRUMENTS FOR GAME EXPERIENCE AND QUALITY		
Game experience	<p>We used the concise version of the Game Experience Questionnaire (GEQ; IJsselsteijn, de Kort, & Poels, 2013) Core module – In-game version but extended with one additional item for each component in order to increase reliability. Some items from in-game GEQ were switched with items from core module to be age and game appropriate. The players rated each of 21 statements on the 5-point scale (not at all, slightly, moderately, fairly, and extremely). The scale consisted of seven dimensions: Immersion, Tension, Competence, Flow, Negative Affect, Positive Affect, Challenge.</p>	<p>Each dimension 3-15</p>
Game quality	<p>Game quality scale aims at assessment of game usability from the perspective of game player. We opted for construction of a short scale according to ISO/IEC 2510 standard. The scale included 9 items assessing 4 components: Learnability, Operability, User interface aesthetics, and Accessibility. Total result was computed as sum of the results on 8 items, because one item reduced the reliability of the scale. We added items for self-assessment of learning and open-ended question regarding overall satisfaction with the game. Students rated the games on the 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree).</p>	<p>Game Quality 8-40</p> <p>Self-assessment of learning 1-5</p>



7. DESCRIPTIVE STATISTICS OF VARIABLES IN SPANISH AND ENGLISH SPEAKING SAMPLES

This section is divided in two parts. The first part, 7.1., refers to follow up (post-test) measurement of the key target variables that were assessed both in the pre-test and the post-test: knowledge and behaviour related to safe use of internet and bullying, variables from theory of planned behaviour (TPB) for safe use of internet and bullying, and personal variables. The second section, 7.2., refers to the measures that were assessed solely in the post-test: Game Experience Questionnaire and Game Quality Scale.

7.1. POST TEST: DEPENDENT VARIABLES

In Table 7.1. descriptive statistics for dependent variables that were repeated from pre-test are presented (knowledge and behaviour related to safe use of internet and bullying, variables from theory of planned behaviour (TPB) for safe use of internet and bullying, and personal variables).

Table 7.1. Descriptive statistics for dependent variables in Spanish and English speaking sample

	Spanish sample		English speaking sample	
	M	SD	M	SD
Knowledge and behaviour (range)				
Bullying				
Knowledge (0-16)	13.99	2.01	14.05	1.97
Aggressive as inappropriate reactions (0-16)	14.43	1.77	14.28	1.90
Passive as inappropriate reactions (0-16)	13.12	2.57	12.24	3.13
Assertive as appropriate reactions (0-16)	12.86	2.06	12.89	2.52
Appropriate reactions (0-48)	40.41	4.88	39.41	5.72



Victimization (5-25)	7.52	3.04	8.98	3.92
Bullying behaviour (5-25)	6.16	2.08	7.18	3.83
Safe use of internet				
Knowledge (0-16)	12.14	2.71	11.18	2.79
Variables adapted from the TPB (range)				
TPB in bullying situations				
Attitudes toward bullying (4-28)	5.98	3.24	5.52	3.01
Attitudes toward protecting the victim (5-35)	30.49	7.20	29.02	6.83
Control (1-5)	3.22	1.16	3.71	1.05
Self-efficacy (3-15)	10.24	2.64	10.24	2.60
Subjective norms (3-15)	11.16	2.02	10.49	2.27
Behavioural intention (3-15)	12.46	2.09	11.65	2.57
TPB in safe use of the internet				
Attitude (4-20)	18.33	2.55	17.57	3.04
Control (3-15)	12.51	2.33	12.16	2.63
Self-efficacy (3-15)	12.71	2.17	12.52	2.60
Subjective norms (3-15)	13.08	2.11	12.51	2.48
Behavioural intention (3-15)	12.92	2.26	12.77	2.33
Personal variables (range)				
Assertive reactions (0-8)	3.72	1.74	3.48	1.82
Aggressive reactions (0-16)	2.86	2.70	2.55	2.26
Passive reactions (0-16)	2.55	1.88	3.40	2.72
Empathy (6-30)	25.20	3.71	23.24	5.52
Compassion (0-16)	14.07	2.42	14.01	2.52
Social Skills (8-40)	32.41	5.19	34.08	6.05
Friendship (3-15)	12.71	2.42	11.75	3.30



Related to the safe use of internet, the results reveal a good knowledge on the part of the students, positive attitudes to make safe use of the network and high scores on behavioural intention, control, self-efficacy and subjective norm. This indicates the subjective probability that children would act correctly, the perception that it will be easy for them to behave safely, confidence in their ability to act as they want, and feeling of social pressure to use the internet safely. In these variables, the score of 12 points is exceeded on a scale with a maximum score of 16 in both samples.

In relation to the knowledge that students have about bullying, it can be said that students recognize bullying situations and appropriate reactions in these situations. They are also able to feel compassion for victims. The scores obtained are high, the average exceeds 13 points, with a maximum score of 16 in both samples. Students are rarely victimized in the school, and rarely show bullying behaviour. Usual reactions of students when they witness bullying situations are shown in Table 7.2. More than half of students in both samples report that they try to help the bullied student, but around 20% in both samples wouldn't do anything, but they think they ought to support the victims. Substantial number of students never noticed that their peers have been bullied (around 25% of Spanish and 20% of English speaking students).

Lastly, the analysis of variables from Theory of Planned Behaviour show that students have a very negative attitude towards bullying and positive toward protecting the victim. Students also have the intention to help the victim and they agree helping the victim is expected behaviour. However there are not so sure about their self-efficacy and control regarding helping the victim.

The analysis of personal variables of a social nature such as assertiveness, empathy, social skills, and friendship, show that students are more prone to respond assertively to conflicts, they rarely act passively or aggressively. Students in both samples also manifest a relatively high degree of empathy and social skills. Most students have frequent interactions with friends and have the best friend in school (78,7% of Spanish and 90.1% of English speaking students) and they also have a lot of friends at school (93.6 % of the sample have four or more friends in Spanish schools, and 90.6% in English speaking schools).

Table 7.2. Bystander reactions in bullying situations in Spanish and English speaking sample

	Spanish sample		English speaking sample	
	f	%	f	%
I have never noticed that students my age have been bullied	43	24.7	35	20.5



I take part in the bullying	1	0.6	1	0.6
I don't do anything but think it is ok	2	1.1	4	2.3
I just watch what goes on	1	0.6	6	3.5
I don't do anything, but I think I ought to help the bullied students	35	20.1	37	21.6
I try to help the bullied student	92	52.9	88	51
TOTAL	174	100	171	100

In order to examine whether there are differences between Spanish and English speaking samples in observed key target variables a series of non-parametric tests was run, since previous analyses showed that variables are not normally distributed. The results are presented in Table 7.3.

Table 7.3. Mann-Whitney's U tests results: Comparison of tested variables between Spanish and English speaking sample

	Mann-Whitney's U	Wilcoxon's W	Z	Sign. difference (bilateral)
Knowledge and behaviour				
Bullying				
Knowledge	14571.50	29796.50	-.337	.74
Appropriate reactions	13498.50	28204.50	-1.49	.14
Victimization	11486.50	26711.50	-3.71	.00
Bullying behaviour	13434.00	28659.00	-1.69	.09
Safe use of internet				
Knowledge	11753.50	26459.50	-3.40	.00
Variables adapted from the TPB				
TPB in bullying situations				
Attitudes toward bullying (4 items)	13684.50	28390.50	-1.44	.15
Attitudes toward protecting the victim (5	12486.50	27192.50	-2.59	.01



items)				
Control				
Self-efficacy	14676.50	29901.50	-.22	.83
Subjective norms	12189.00	26895.00	-2.93	.00
Behavioural intention	12280.00	26986.00	-2.83	.00
TPB in safe use of the internet				
Attitude	12801.50	27507.50	-2.38	.02
Control	14019.00	28725.00	-.94	.35
Self-efficacy	14817.00	30042.00	-.07	.95
Subjective norms	13006.50	27712.50	-2.07	.04
Behavioural intention	14394.00	29100.00	-.54	.59
Personal variables				
Assertive reactions	13696.50	28402.50	-1.29	.20
Aggressive reactions	14441.50	29147.50	-.48	.63
Passive reactions	12455.00	27680.00	-2.64	.01
Empathy	12022.50	26728.50	-3.09	.00
Compassion	14514.50	29220.50	-.40	.69
Social Skills	11580.50	26805.50	-3.57	.00
Friendship	12789.50	27495.50	-2.31	.02

The results show that Spanish and English speaking samples differ in several variables that are assessed in the post-test: bullying victimization, attitudes, subjective norms and behavioural intention related to protecting the victim, knowledge, attitudes and subjective norms related to safe use of internet, tendency to passive reactions in social situations, empathy, social skills and friendship.

Students in Spanish sample report that they have been bullied less often than students in English speaking sample. Spanish students also have more positive attitudes towards protecting the victim, as well as higher subjective norms and behavioural intention regarding protecting the victim.



Spanish students have somewhat greater knowledge about safe use of internet and have more positive attitudes and higher subjective norms towards safe use of internet compared to English speaking sample.

English speaking students have tendency to react more passively in social situations compared to Spanish students, and they report somewhat lower levels of empathy and lower frequency of interaction with friends, but at the same time they report somewhat higher levels of social skills compared to their Spanish peers.

Similar differences have been found in pre-test. As already discussed, these differences could stem from cultural and school environment differences in participating countries, particularly taking into account that English speaking sample consisted of students from three different countries. Also, some differences could stem from specific semantic connotation of items used in two languages.

7.2. POST TEST: GAME EXPERIENCE AND GAME QUALITY

In this section descriptive statistics for variables that were assessed solely in the post-test is presented for Spanish and English-speaking sample. Additionally, differences between Spanish and English speaking samples are also analysed and presented.

Although factor analysis of the Game Experience scale yielded three factors, the factors were quite general and the structure was not identical for the two tested games. Therefore we opted to show the results on original seven dimensions since reliability analysis showed good internal consistency of the scales (see D5.2 for more detailed discussion). The results are shown separately for School of Empathy (Table 7.4.) and Go Online (Table 7.5) game.

The results regarding the Game Quality are also shown separately for the two games, and for Spanish and English speaking samples in Tables 7.4. and 7.5. Means and standard deviation are shown for each item, as it might be informative for future improvements of games. Also, the total result on Game Quality scale is shown, and it refers to sum of eight items since the item *It happened that this game stopped unexpectedly* reduced the internal consistency of the scale.



Table 7.4. Descriptive statistics for Game experience scale for School of Empathy game in Spanish and English speaking sample

	Spanish sample		English speaking sample	
	M	SD	M	SD
Game experience (range 3-15)				
Immersion	8.59	2.96	8.05	3.29
Tension	8.81	3.48	7.95	3.40
Competence	9.66	2.45	9.79	3.03
Flow	7.58	3.11	7.35	2.94
Negative Affect	8.37	2.96	7.33	3.17
Positive Affect	8.61	2.96	9.39	3.79
Challenge	8.12	3.06	8.12	2.95
Game quality (range)				
The instructions in the game are clear and easy to understand. (1-5)	4.31	0.92	3.63	1.19
The feedback in the game was helpful. (1-5)	3.54	0.99	3.14	1.09
My character in the game reacted promptly to command. (1-5)	3.02	1.37	3.19	1.19
It happened that this game stopped unexpectedly. (1-5)	3.53	1.54	2.82	1.32
The game design is attractive. (1-5)	3.15	1.26	3.23	1.13
The characters are appealing. (1-5)	2.78	1.25	3.16	1.24
The fonts used in the game were easy to read. (1-5)	4.36	0.92	3.91	1.11
I would recommend this game to my peers. (1-5)	3.07	1.32	2.89	1.29
I prefer learning with this game to learning through	3.69	1.16	3.40	1.35



other ways. (1-5)				
Total Game Quality (range 8-40)	27.92	6.54	26.56	6.64
The game contributed to improving my knowledge and behaviour related to bullying. (1-5)	3.80	1.23	3.23	1.40
The game contributed to improving my knowledge and behaviour related to safe use of internet. (1-5)	2.59	1.23	3.18	1.34

Table 7.5. Descriptive statistics for Game experience scale for Go Online game in Spanish and English speaking sample

	Spanish sample		English speaking sample	
	M	SD	M	SD
Game experience (range 3-15)				
Immersion	6.76	2.85	7.14	3.55
Tension	5.78	2.94	7.21	3.49
Competence	9.70	2.65	9.74	3.01
Flow	6.63	3.14	6.98	3.27
Negative Affect	8.54	3.39	7.79	3.46
Positive Affect	8.12	3.03	8.71	3.97
Challenge	5.56	2.36	5.95	2.54
Game quality (range)				
The instructions in the game are clear and easy to understand. (1-5)	4.20	1.11	4.19	0.83
The feedback in the game was helpful. (1-5)	3.56	1.26	3.62	1.21
My character in the game reacted promptly to command. (1-5)	2.63	1.34	3.09	1.35
It happened that this game	4.49	0.88	3.38	1.48



stopped unexpectedly. (1-5)				
The game design is attractive. (1-5)	2.93	1.05	2.97	1.31
The characters are appealing. (1-5)	2.22	1.00	2.72	1.30
The fonts used in the game were easy to read. (1-5)	4.12	1.05	4.22	0.90
I would recommend this game to my peers. (1-5)	2.31	1.13	2.69	1.38
I prefer learning with this game to learning through other ways. (1-5)	3.53	1.38	2.98	1.44
Total Game Quality (range 8-40)	25.49	5.94	26.48	7.18
The game contributed to improving my knowledge and behaviour related to bullying. (1-5)	2.51	1.46	2.88	1.41
The game contributed to improving my knowledge and behaviour related to safe use of internet. (1-5)	3.37	1.36	3.34	1.29

As analyses showed that data obtained on Game Experience subscales are not normally distributed in both samples (Table 7.6. and Table 7.7.), a series of non-parametric tests was run in order to examine whether there are differences between Spanish and English speaking samples in students' game experiences for each game (Tables 7.8. and 7.9). Since data obtained on Game Quality scale are normally distributed in both samples (Table 7.6. and Table 7.7.), a t-test for independent samples was run in order to examine whether there are differences between Spanish and English speaking samples in perceived game quality (Tables 7.8. and 7.9).

Table 7.6. Normality test. Game Experience scale and Game Quality in Spanish sample

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Immersion	.12	118	.00	.96	118	.00



Tension	.16	118	.00	.92	118	.00
Competence	.12	118	.00	.97	118	.01
Flow	.11	118	.00	.94	118	.00
Negative Affect	.09	118	.02	.97	118	.01
Positive Affect	.09	118	.02	.97	118	.02
Challenge	.13	118	.00	.94	118	.00
Game Quality	.07	118	.20	.98	118	.16

a. Lilliefors' significance correction

Table 7.7. Normality test. Game Experience scale and Game Quality in English speaking sample

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Immersion	.13	115	.00	.94	115	.00
Tension	.15	115	.00	.92	115	.00
Competence	.12	115	.00	.97	115	.01
Flow	.11	115	.00	.95	115	.00
Negative Affect	.14	115	.00	.93	115	.00
Positive Affect	.13	115	.00	.93	115	.00
Challenge	.11	115	.00	.95	115	.00
Game Quality	.07	115	.20	.98	115	.22

a. Lilliefors' significance correction



Table 7.8. Mann-Whitney's U and t-test results: Comparison of Game Experience and Game Quality between Spanish and English speaking sample for School of Empathy

	Mann-Whitney's U	Wilcoxon's W	Z	Sign. difference (bilateral)
Game Experience				
Immersion	1499.50	3152.50	-1.01	.31
Tension	1431.50	3084.50	-1.39	.17
Competence	1658.50	3428.50	-0.13	.90
Flow	1617.00	3270.00	-0.36	.72
Negative Affect	1305.50	2958.50	-2.09	.04
Positive Affect	1469.50	3239.50	-1.18	.24
Challenge	1663.00	3433.00	-0.10	.92
Game Quality (8 items)	t-test	df	-	Sign. difference (bilateral)
	1.106	1,114		.27

Table 7.9. Mann-Whitney's U and t-tests results: Comparison of Game Experience and Game Quality between Spanish and English speaking sample for Go Online

	Mann-Whitney's U	Wilcoxon's W	Z	Sign. difference (bilateral)
Game Experience				
Immersion	1665.00	3435.00	-0.25	.80
Tension	1260.00	3030.00	-2.48	.01
Competence	1704.50	3415.50	-0.04	.97
Flow	1612.50	3382.50	-0.54	.59
Negative Affect	1494.00	3205.00	-1.19	.23



Positive Affect	1558.00	3328.00	-0.84	.40
Challenge	1548.50	3318.50	-0.90	.37
Game Quality (8 items)	t-test	df		Sign. difference (bilateral)
	0.81	1,115		.42

The results show that Spanish and English speaking students experienced same levels of positive experiences: immersion, competence, flow, positive affect, and challenge while playing the games. In both games students felt moderate levels of positive affect and competence. While playing the School of Empathy students also had moderate levels of sensory and imaginative immersion, and slight to moderate levels of other experiences. While playing the Go Online game students had slight to moderate levels of negative experiences and slightly feel other assessed experiences.

However, some differences between Spanish and English speaking samples are found regarding negative experiences. For the School of Empathy game students in both samples experience similar levels of tension but Spanish students have somewhat higher levels of negative affects (they felt more bored and tiresome). For the Go Online game students in both samples experience similar levels of negative affects, but English speaking students reported higher levels of tension.

There were no differences between Spanish and English speaking samples in overall perceived games' quality. The highest scores for both games were obtained for clarity of instructions and readability of fonts, but students also frequently report that the game stopped unexpectedly.

The students report that the School of Empathy game moderately contributed to their knowledge of bullying but also to improving knowledge about safe use of internet to some extent. The opposite was found for the Go Online game: it moderately contributed to students' knowledge about safe use of internet, but students also perceive that it contributed to improving their knowledge about bullying to some extent.

8. CONCLUSIONS

The post-test application has been carried out in May and June 2018 in all 10 schools, 5 Spanish and 5 English-speaking schools. The post-test questionnaire included the same questions as pre-



test, excluding variables describing the sample and game experience. Additionally students in experimental groups answered the questions regarding game experience and game quality.

Most of the students participated in the post test. There was a small attrition of students from pre-test to post test. From initial sample of 356 students that completed the pre-test, 341 (96%) completed the post-test. Attrition was similarly distributed across samples (Spanish and English speaking) and different conditions (groups). In Spanish sample 59 students from experimental group that played School of Empathy and 59 students from experimental group that played Go Online completed the post-test. In English speaking sample 56 students from experimental group that played School of Empathy and 57 students from experimental group that played Go Online completed the post-test. Fifty five students from each control group (Spanish and English speaking) also completed the post-test.

Related to the safe use of internet, the results reveal a good knowledge on the part of the students, positive attitudes to make safe use of the network and high scores on behavioural intention, control, self-efficacy and subjective norm.

In relation to the knowledge that students have about bullying, it can be said that students recognize bullying situations and appropriate reactions in these situations. They are also able to feel compassion for victims. More than half of students in both samples report that they try to help the bullied student, but around 20% in both samples wouldn't do anything, but they think they ought to support the victims. Students have a very negative attitude towards bullying and positive toward protecting the victim. Students also have the intention to help the victim and they agree helping the victim is expected behaviour. However there are not so sure about their self-efficacy and control regarding helping the victim.

The analysis of personal variables of a social nature show that students are more prone to respond assertively to conflicts, they rarely act passively or aggressively. They also report relatively high degree of empathy and social skills. Most students have frequent interactions with friends and have the best friend in school.

The results show that Spanish and English speaking samples differ in several variables that are assessed in the post-test: bullying victimization, attitudes, subjective norms and behavioural intention related to protecting the victim, knowledge, attitudes and subjective norms related to safe use of internet, tendency to passive reactions in social situations, empathy, social skills and friendship. Students in Spanish sample report that they have been bullied less often than students in English speaking sample. Spanish students also have more positive attitudes towards protecting the victim, as well as higher subjective norms and behavioural intention regarding protecting the victim. Spanish students have somewhat greater knowledge about safe use of internet and have more positive attitudes and higher subjective norms towards safe use of internet compared to English speaking sample. English speaking students have tendency to react more passively in



social situations compared to Spanish students, and they report somewhat lower levels of empathy and lower frequency of interaction with friends, but at the same time they report somewhat higher levels of social skills compared to their Spanish peers. Similar differences have been found in pre-test.

The results show that Spanish and English speaking students experienced same levels of positive experiences while playing the games (immersion, competence, flow, positive affect, and challenge). In both games students felt moderate levels of positive affect and competence. While playing the School of Empathy students also had moderate levels of sensory and imaginative immersion, and slight to moderate levels of other experiences. While playing the Go Online game students had slight to moderate levels of negative experiences and slightly feel other assessed experiences.

However, some differences between Spanish and English speaking samples are found regarding negative experiences. For the School of Empathy game students in both samples experience similar levels of tension but Spanish students have somewhat higher levels of negative affects (they felt more bored and tiresome). For the Go Online game students in both samples experience similar levels of negative affects, but English speaking students reported higher levels of tension.

There were no differences in perceived games' quality between Spanish and English speaking samples. The highest scores for both games were obtained for clarity of instructions and readability of fonts, but students also frequently report that the game stopped unexpectedly. The students report that the School of Empathy game moderately contributed to their knowledge of bullying but also to improving knowledge about safe use of internet to some extent. The opposite was found for the Go Online game.

The comparison between pre and post test results will be presented in D5.3. *Data analysis results*, and further discussed in D5.4 *Games evaluation*.

9. REFERENCES

Bierman, K. L., & McCauley, E. (1987). Children's descriptions of their peer interactions: Useful information for clinical child assessment. *Journal of Clinical Child Psychology*, 16(1), 9-18.

Bryant, B. K. (1982). An Index of Empathy for Children and Adolescents. *Child Development*, 53(2), 413-425.

Costley, J. H. M., Sueng-Lock, H., & Ji-Eun, L. (2013). Preservice teachers' response to bullying vignettes: The effect of bullying type and gender. *International Journal of Secondary Education*, 1(6), 45-52.



DeSmet, A., Bastiaensens, S., Van Cleemput, K., Poels, K., Vandebosch, H., Cardon, G., & De Bourdeaudhuij, I. (2016). Deciding whether to look after them, to like it, or leave it: A multidimensional analysis of predictors of positive and negative bystander behaviour in cyberbullying among adolescents. *Computers in Human Behaviour*, 57, 398-415.

Girard, C., Ecalle, J., & Magnan, A. (2013). Serious games as new educational tools: how effective are they? A meta-analysis of recent studies. *Journal of Computer Assisted Learning*, 29(3), 207-219.

IJsselsteijn, W. A., de Kort, Y. A. W., & Poels, K. (2013). *The Game Experience Questionnaire*. Eindhoven: Technische Universiteit Eindhoven.

ISO. (2011). *Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models*. International Standard ISO/IEC 25010.

Lee, K. M., Jin, S.-A., Park, N., & Kang, S. (2009). *Effect of Narrative on the Feelings of Presence in Computer-Game Playing*. Retrieved from http://www.allacademic.com/meta/p13584_index.html

Matson, J. L., Rotatori, A. F., & Helsel, W. J. (1983). Development of a rating scale to measure social skills in children: The Matson Evaluation of Social Skills with Youngsters (MESSY). *Behaviour Research and therapy*, 21(4), 335-340.

Michelson, L. & Wood, R. (1982). Development and psychometric properties of the Children's Assertive Behaviour Scale. *Journal of Behavioural Assessment*, 4(1), 3-13.

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, 55(5), 602-611.

Olweus, D. (1996). *The revised Olweus Bully/Victim Questionnaire for Students*. Bergen, Norway: University of Bergen.

Padgett, S. & Notar, C.E. (2013). Bystanders are the key to stopping bullying. *Universal Journal of Educational Research*, 1(2), 33-41.

Taylor, S., & Todd, P. (1995) Understanding Information Technology Usage: A Test of Competing Models, *Information Systems Research*, 6(2), 144-176.



ANNEX I. POST-TEST QUESTIONNAIRE FOR EXPERIMENTAL CONDITIONS

This is a survey about your life in school, your behaviours, and your opinions. It is very much like the survey you took earlier this school year. If you participated in gaming sessions, the survey will also include questions about your gaming experience. Please take a time to answer the questions carefully and answer each of them. Questions have multiple responses, so you need to evaluate which answer best fits your opinion. Please answer honestly. Your responses to this survey will be kept confidential and anonymous. If you do not understand a question, raise your hand and teacher or research coordinator will help you.

Following questions relate to your gaming experience with the eConfidence game.

Please indicate how you felt while playing the game for each of the items, on the following scale:

- 1 not at all
- 2 slightly
- 3 moderately
- 4 fairly
- 5 extremely

I felt skilful.	1	2	3	4	5
I felt challenged.	1	2	3	4	5
I felt annoyed.	1	2	3	4	5
I had to put a lot of effort to it.	1	2	3	4	5
I felt good.	1	2	3	4	5
I felt successful.	1	2	3	4	5
I felt bored.	1	2	3	4	5
I felt frustrated.	1	2	3	4	5
I forgot everything around me.	1	2	3	4	5
I felt that I could explore things.	1	2	3	4	5
I thought it was hard.	1	2	3	4	5
I felt imaginative.	1	2	3	4	5
I was fully occupied with the game.	1	2	3	4	5
I thought it was fun.	1	2	3	4	5
I felt irritable.	1	2	3	4	5
I found it tiresome.	1	2	3	4	5
I was good at it.	1	2	3	4	5
I was interested in the games' story.	1	2	3	4	5
It gave me a bad mood.	1	2	3	4	5
I enjoyed.	1	2	3	4	5
I lost track of time.	1	2	3	4	5

In this part of the survey please assess on a scale ranging from 1 to 5 whether you agree with following statements. The numbers mean



- 1 strongly disagree
- 2 disagree
- 3 not sure
- 4 agree
- 5 strongly agree

The instructions in the game are clear and easy to understand.	1 2 3 4 5
The feedback in the game was helpful.	1 2 3 4 5
My character in the game reacted promptly to command.	1 2 3 4 5
It happened that this game stopped unexpectedly.	1 2 3 4 5
The game design is attractive.	1 2 3 4 5
The characters are appealing.	1 2 3 4 5
The fonts used in the game were easy to read.	1 2 3 4 5
I would recommend this game to my peers.	1 2 3 4 5
I prefer learning with this game to learning through other ways.	1 2 3 4 5
The game contributed to improving my knowledge and behaviour related to bullying.	1 2 3 4 5
The game contributed to improving my knowledge and behaviour related to safe use of internet.	1 2 3 4 5

I have successfully finished the game yes no

In your opinion, what are good and bad sides of the game you played (what did you like, what bothered you the most)?

In proceeding items we are going to describe some situations that could happen in school. Please answer the questions related to each situation.

1) In front of the classroom, you witness a situation in which one boy is blocking another boy's way to the classroom. It is not the first time that this has happened.

- Is this an example of bullying? Yes/No/Maybe
- Would you feel compassion for the boy who was blocked? Yes/No/Maybe

Are the following reactions appropriate in this situation?

- Say something funny, unrelated to the situation, to turn attention away Yes/No/Maybe
- Do nothing, watch what will happen Yes/No/Maybe
- Join the boy who is blocking the way, it might be fun Yes/No/Maybe

2) You witness a boy stumble on a bag left on the floor. As he falls, he pushes another girl and she falls and bangs her head on the wall. You can see some blood on her forehead.

- Is this an example of bullying? Yes/No/Maybe



- Would you feel compassion for the girl? Yes/No/Maybe

Are the following reactions appropriate in this situation?

- Comfort the girl who is hurt Yes/No/Maybe
- Tell to the boy who pushed the girl: "Watch out, stupid!" Yes/No/Maybe
- Look away Yes/No/Maybe

3) In the cafeteria, you witness a situation in which one girl is sitting at the table and eating alone. Some classmates are sitting at a nearby table and gossiping about her. You noticed almost the same situation every day.

- Is this an example of bullying? Yes/No/Maybe
- Would you feel compassion for the girl? Yes/No/Maybe

Are the following reactions appropriate in this situation?

- Sit next to the girl and start a conversation Yes/No/Maybe
- Sit with your friends, this has nothing to do with you Yes/No/Maybe
- Go to the classmates' table and join in on the gossip Yes/No/Maybe

4) In the school yard, you witness a situation in which one boy is hitting another student. You had witnessed a similar situation several times during the last month.

- Is this an example of bullying? Yes/No/Maybe
- Would you feel compassion for the boy who was hit? Yes/No/Maybe

Are the following reactions appropriate in this situation?

- Walk away, it is none of my business Yes/No/Maybe
- Tell the teacher Yes/No/Maybe
- Cheer on and take a video with a smartphone Yes/No/Maybe

5) While the whole class is waiting for the teacher inside the gym, you hear one girl saying to another: "I have heard your parents are going to divorce because of you. Nobody likes you. Not even your parents." She says such things often. The other girl stays silent.

- Is this an example of bullying? Yes/No/Maybe
- Would you feel compassion for the girl who stays silent? Yes/No/Maybe

Are the following reactions appropriate in this situation?

- Look away Yes/No/Maybe



- Comfort the girl who stays silent by saying: “Don’t listen to her, she is not right.” Yes/No/Maybe
 - Tell to the girl who is speaking: “Shut up, you are stupid and evil.” Yes/No/Maybe
- 6) In the school yard, during recess, you witness a situation in which some boys are playing free throws in basketball, but they intentionally leave one boy out of the game, saying: “We don’t need you. Get out”. Similar situations have happened before.**
- Is this an example of bullying? Yes/No/Maybe
 - Would you feel compassion for the boy? Yes/No/Maybe
- Are the following reactions appropriate in this situation?
- Walk away, it is none of my business Yes/No/Maybe
 - Tell the boys: “You are unfair, you should have picked him, too” Yes/No/Maybe
 - Laugh at the boy Yes/No/Maybe
- 7) A girl is organising a birthday party and she handed out invitations to all the classmates except to one boy who was not in school that day. The next day the boy was in school, but the girl forgot to give him the invitation and he was disappointed.**
- Is this an example of bullying? Yes/No/Maybe
 - Would you feel compassion for the boy? Yes/No/Maybe
- Are the following reactions appropriate in this situation?
- Tell the boy: “Don’t be sad, she forgot.” Yes/No/Maybe
 - Tell the girl: “You are not fair, you should have invited him!” Yes/No/Maybe
 - Do nothing Yes/No/Maybe
- 8) During recess, one of the girls is teasing and mocking another boy because he likes boys. She does that whenever she has the opportunity.**
- Is this an example of bullying? Yes/No/Maybe
 - Would you feel compassion for the boy? Yes/No/Maybe
- Are the following reactions appropriate in this situation?
- Join in on the mocking Yes/No/Maybe
 - Look away, it is none of my business Yes/No/Maybe



- Tell the girl who is speaking: “Leave him alone, mind your own business.” Yes/No/Maybe

How often have you experienced following kind of behaviours in school in the last couple of months?

Please rate each statement on a scale ranging from 1 to 5. The numbers mean:

- 1. not at all**
- 2. once or twice**
- 3. two to three times a month**
- 4. about once a week**
- 5. several times a week**

- | | |
|---|-----------|
| 1. Someone said mean and hurtful things to me or made fun of me or call me mean and hurtful names. | 1 2 3 4 5 |
| 2. Someone completely ignored me or excluded me from the group of friends or left me out of things on purpose | 1 2 3 4 5 |
| 3. Someone hit me, kicked me, pushed me | 1 2 3 4 5 |
| 4. Someone shoved me around or threatened me | 1 2 3 4 5 |
| 5. Someone told lies or spread false rumours about me or send mean notes about me | 1 2 3 4 5 |

How often have you behaved in following ways in the last couple of months?

Please rate each statement on a scale ranging from 1 to 5. The numbers mean:

- 1. not at all**
- 2. once or twice**
- 3. two to three times a month**
- 4. about once a week**
- 5. several times a week**

- | | |
|--|-----------|
| 1. Said mean and hurtful things to someone or made fun of him/her or call him/her mean and hurtful names | 1 2 3 4 5 |
| 2. Completely ignored someone or excluded him/her from the | |



- | | |
|---|-----------|
| group of | 1 2 3 4 5 |
| 3. Hit, kicked, and/or pushed someone | 1 2 3 4 5 |
| 4. Shoved someone around or threatened him/her | 1 2 3 4 5 |
| 5. Told lies or spread false rumours about someone or send mean notes about him/her | 1 2 3 4 5 |

How do you usually react if you see or learn that a student your age is being bullied? Please choose only one answer.

- I have never noticed that students my age have been bullied.
- I take part in the bullying.
- I don't do anything but think it is OK.
- I just watch what goes on.
- I don't do anything, but I think I ought to help the bullied students.
- I try to help the bullied student.

How do you feel about bullying and protecting the victim of bullying? Please mark one of the bubbles between each pair of words.

For me, bullying is...

- | | | |
|-----------|---|------------|
| Bad | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Good |
| Harmful | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Beneficial |
| Worthless | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Useful |
| Weak | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Powerful |
| Safe | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Unsafe |
| Foolish | <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | Wise |



For me, protecting the victim in bullying situation is...

Bad	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Good
Harmful	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Beneficial
Worthless	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Useful
Weak	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Powerful
Safe	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Unsafe
Foolish	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Wise

Please assess on scale ranging from 1 to 5 whether you agree with following statements. The numbers mean.

- 1. strongly disagree**
- 2. disagree**
- 3. not sure**
- 4. agree**
- 5. strongly agree**

1. I intend to protect the victim if I witness bullying.	1 2 3 4 5
2. In my school, students protect the victims of bullying.	1 2 3 4 5
3. It is mostly up to me whether or not I would protect the victim.	1 2 3 4 5
4. I can easily protect the victim if I want to.	1 2 3 4 5
5. Whether I would protect the victim is not entirely up to me.	1 2 3 4 5
6. Most people who are important to me think that is good idea to protect the victim.	1 2 3 4 5



- | | |
|--|-----------|
| 7. There is a chance that I will protect the victim in bullying situation. | 1 2 3 4 5 |
| 8. It is easy for me to protect the victim of bullying. | 1 2 3 4 5 |
| 9. I feel that my friends want me to protect the victim. | 1 2 3 4 5 |
| 10. I want to protect the victim. | 1 2 3 4 5 |
| 11. I am confident that I could protect the victim. | 1 2 3 4 5 |
| 12. Protecting the victim is beyond my control. | 1 2 3 4 5 |

In proceeding items we are going to describe some situations related to internet use. Please answer the questions by selecting the answer you find correct.

(The correct answer is marked in red)

- 1) Once we have created a password to access to an internet service:
 - a) We don't need to modify it
 - b) We only need to modify it if it has less than eight characters
 - c) We have to modify it from time to time**

- 2) Some internet services allow you to use security questions to recover your password, what security question should we use?
 - a) Simple security questions with an obvious answer so we do not forget it
 - b) With a complex or fake question that only we know**
 - c) One that requires our birthday

- 3) When you access a public Wi-Fi:
 - a) You take the risk of someone accessing to the data storage in your device**
 - b) You do not take any kind of risk
 - c) You are only at risk if you do not close your session when you finish.

- 4) If you have the chance to access the email account of a friend and send a message, would you do it?:
 - a) No, because although I have his/her password it is a violation of his/her privacy**
 - b) Yes, because I have seen other people doing it
 - c) Ye, because he/she gave me his/her password and I have his/her trust to use it

- 5) When you search for songs on the internet, you download files:
 - a) Only from trusted websites**



- b) From any web that has the songs that I like
c) From the web page that my friends use
- 6) When I participate in an online game:
a) I do not establish a time limit to stop playing
b) I do not bother updating the antivirus
c) I do not give out personal information in the chat of the game
- 7) When I use the computer to do homework:
a) I do not care for the state of the webcam
b) I cover the webcam to prevent image capturing
c) I do not deactivate the webcam
- 8) How would you configure your social network profile?
a) Private, so only my friends can see it
b) Semi-private, so the friends of my friends can also see it
c) Public, so everybody can see it
- 9) What consequences could tagging a friend in a photograph uploaded to a social network have?
a) None
b) It can have a massive dissemination on the internet if the account is not properly configured
c) Nothing would happen, at the most he/she would be more popular
- 10) When you write messages on the internet:
a) It is adequate to use emoticons to express our feelings
b) It is not adequate to use emoticons to express our feelings at the moment
c) The use of emoticons is irrelevant, therefore I do not use them
- 11) When we share information online we should:
a) Publish the photographs and videos that we like the most without worrying about the other people that appears in them or how they appear
b) Only publish personal videos and photographs sometimes although someone may feel upset
c) Not publish personal photographs or videos if they show other people (friends, schoolmates...) especially if they are offensive or compromising
- 12) Do you think that is right to share your daily routine in the social networks and announce when you are going out on holidays?
a) Yes, my friends love this information and they do the same
b) Sometimes it is, I would not tell everything I do on real time but I would notify when I am going on holidays
c) No, I would never share when I am going on holidays or what I do in my everyday
- 13) What would you do if one of your classmates threatens another with publishing a compromising photograph through the WhatsApp group of your grade?
a) I would not do anything, they have to solve it themselves
b) I would tell a friend but I would not say anything to my teaches or my parents
c) I would tell my classmate that what he/she is doing is wrong
- 14) Do you think is right to take the mobile phone of a friend and send messages in his/her name?



- a) No, but I have seen other people do it
 - b) No, because it violates his/her privacy and could be punishable
 - c) Yes, because he/she is a friend and I have his/her trust to use his/her mobile phone without his/her knowledge
- 15) You receive a strange email from a supposed friend that contains a link:
- a) You think that is weird that your friend writes that email. You decide to ask your friend before doing anything
 - b) You are very concerned about security issues. For this reason, you decide to click in the link inside the email to see what it is exactly about
 - c) It is true that the email is weird...but you are too curious and you click the link and give your personal data if it asks for it
- 16) Surfing the web, you find a message that says that you have a virus and wants you to download an antivirus to eliminate it, should you do it?
- a) Yes, because the virus may infect my computer
 - b) No, because that message may contain a virus
 - c) It depends on the web and the content I am visiting

Please assess on scale ranging from 1 to 5 whether you agree with following statements. The numbers mean

- 1. strongly disagree**
- 2. disagree**
- 3. not sure**
- 4. agree**
- 5. strongly agree**

- | | |
|--|-----------|
| 1. I would be able to use the internet safely. | 1 2 3 4 5 |
| 2. Using the internet safely is a beneficial habit. | 1 2 3 4 5 |
| 3. Making a safe use of the internet depends entirely on me. | 1 2 3 4 5 |
| 4. I intend to make a safe use of the internet to do my homework. | 1 2 3 4 5 |
| 5. My teachers consider that I should make a safe use of the internet. | 1 2 3 4 5 |
| 6. I will use the internet in the future in a safe way. | 1 2 3 4 5 |



7. If I wanted I could make a safe use of the internet easily. 1 2 3 4 5
8. I plan to use the internet securely frequently. 1 2 3 4 5
9. I could use the internet safely, even if there was no one to help me. 1 2 3 4 5
10. My friends think I should use the internet safely. 1 2 3 4 5
11. I have the resources, the knowledge and the ability to make a safe use of the internet. 1 2 3 4 5
12. I would feel comfortable using the internet safely by myself. 1 2 3 4 5
13. My parents think I should use the internet safely. 1 2 3 4 5
14. I like the idea of making a safe use of the internet. 1 2 3 4 5
15. Using the internet safely is a good idea. 1 2 3 4 5
16. Making a safe use of the internet is a smart idea. 1 2 3 4 5

In what follows, you are going to answer some questions about what you do in various situations. There are not any "right" or "wrong" answers. You are just to answer what you would really do. From these 5 answers, you decide which one is most like the one you would do.

- 1) You forget something you were supposed to bring and someone says, "You're so dumb! You'd forget your head if it weren't screwed on!" You would usually:
 - (a) Say "I'm smarter than you any day; besides what do you know!"
 - (b) Say "Yes, you're right, sometimes I do act dumb."
 - (c) Say "If anybody is dumb, it's you!"
 - (d) Say "Nobody's perfect. I'm not dumb just because I forgot something!"
 - (e) Say nothing or ignore it.
- 2) You know that someone is feeling upset. You would usually:
 - (a) Say "You seem upset; can I help?"
 - (b) Be with them and not talk about their being upset.
 - (c) Say "What's wrong with you?"



- (d) Not say anything and leave them alone.
- (e) Laugh and say "You're just a big baby!"
- 3) Someone else makes a mistake and someone blames it on you. You would usually:
- (a) Say "You're crazy!"
- (b) Say "That wasn't my fault; someone else made the mistake."
- (c) Say "I don't think it was my fault."
- (d) Say "Wasn't me, you don't know what you're talking about!"
- (e) Take the blame or say nothing.
- 4) You are waiting in line and some steps in front of you. You would usually:
- (a) Make quiet comments such as, "Some people have a lot of nerve," without actually saying anything directly to the person.
- (b) Say "Get to the end of the line!"
- (c) Say nothing to the person.
- (d) Say loudly, "Get out of this line you creep!"
- (e) Say "I was here first; please go to the end of the line."
- 5) Someone does something to you that you don't like and it makes you angry. You would usually:
- (a) Shout "You're a creep, I hate you!"
- (b) Say "I am angry, I don't like what you did."
- (c) Act hurt about it but not say anything to the person.
- (d) Say "I'm mad. I don't like you!"
- (e) Ignore it and not say anything to the person.
- 6) Someone has something that you want to use. You would usually:
- (a) Tell them to give it to you.
- (b) Not ask to use it.
- (c) Take it from them.
- (d) Tell the person you would like to use it, and then ask to use it.
- (e) Make a comment about it, but not ask to use it.
- 7) You feel insulted by something someone said to you. You would usually:



- (a) Walk away from them, but don't tell them you feel upset.
 - (b) Tell them not to do it again.
 - (c) Say nothing to the person, although you feel insulted.
 - (d) Insult them back and call them a name.
 - (e) Tell them you don't like what they said and tell them not to do it again.
- 8) Someone often interrupts you when you're speaking. You would usually:
- (a) Say "Excuse me, I would like to finish what I was saying."
 - (b) Say "This isn't fair; don't I get to talk?"
 - (c) Interrupt the other person by starting to talk again.
 - (d) Say nothing and let the person continue to talk.
 - (e) Say "Shut up, I was talking!"

Please assess on a scale ranging from 1 to 5 whether you agree with following statements. The numbers mean

- 1. strongly disagree**
- 2. disagree**
- 3. not sure**
- 4. agree**
- 5. strongly agree**

- | | |
|--|-----------|
| 1. I stick up for my friends | 1 2 3 4 5 |
| 2. It makes me sad to see a boy who can't find anyone to play with | 1 2 3 4 5 |
| 3. I feel good if I help someone | 1 2 3 4 5 |
| 4. Seeing a girl who is crying makes me feel like crying | 1 2 3 4 5 |
| 5. I feel sorry when I hurt someone | 1 2 3 4 5 |
| 6. I look at people when they are speaking | 1 2 3 4 5 |
| 7. I get upset when I see a girl being hurt | 1 2 3 4 5 |



- | | |
|--|-----------|
| 8. I do nice things for people who are nice to me | 1 2 3 4 5 |
| 9. I ask if I can be of help | 1 2 3 4 5 |
| 10. I cheer up a friend who is sad | 1 2 3 4 5 |
| 11. I get upset when I see a boy being hurt | 1 2 3 4 5 |
| 12. It makes me sad to see a girl who can't find anyone to play with | 1 2 3 4 5 |
| 13. I help a friend who is hurt | 1 2 3 4 5 |
| 14. Seeing a boy who is crying makes me feel like crying | 1 2 3 4 5 |

Do you have best friend at school? Yes No

How many friends do you have in school?

- None
- One
- Two or three
- Four or five
- More than five

Please answer following questions by selecting the answer that suits you most. The numbers mean:

- 1. never**
- 2. hardly ever**
- 3. sometimes**
- 4. most of the time**
- 5. always, every day**

- | | |
|---|-----------|
| Is there someone you play at recess? | 1 2 3 4 5 |
| Is there someone who asks you to play at recess? | 1 2 3 4 5 |
| Is there someone you sit on the bus or walk to school with? | 1 2 3 4 5 |

