



## **STUDENTS' NEEDS**

# **TRANSNATIONAL REPORT**

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## Students' needs: Transnational Report

2022

### ERASMUS+ Project

POSITIVE: Prevention Of Stress by exploitING an Innovative Virtual Environment  
KA220-SCH - Cooperation partnerships in school education

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Funded by  
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# 1. INTRODUCTION

The present research is the first outcome of the Erasmus+ project “POSITIVE: Prevention Of Stress by exploiting an Innovative Virtual Environment” (2021-1-PT01-KA220-SCH-000032534) and it is the result of a shared effort between 6 organizations from 4 different European countries (Portugal, Spain, Greece, and Lithuania). The organizations are:

1. Maieutica Cooperativa de Ensino Superior CRL (Portugal) (maieutica.pt)
2. VšĮ “eMundus” (Lithuania) (emundus.lt)
3. Panepistimio Patron (Greece) (upatras.gr)
4. Arsakeio Lyceum of Patras (Greece) (arsakeio.gr)
5. Agrupamento de Escolas de Rates (Portugal) (portal.aerates.pt)
6. Colegio Los Pinos – Los Pinos Educación, S.L. (Spain) (colegiolospinos.eu)

This document compares how stress and other related mental health issues affect secondary school students in partner countries to guide partners on how to create the following project outcomes. The POSITIVE project mainly aims to design and develop a 3D Virtual World Learning Environment (3DVWLE) to help students cope with their stress and improve their academic results. In line with this objective, the present research provides adequate information on students’ needs, which have been identified through

- **Desk research** presenting national and international statistics on secondary education students’ stress, as well as a qualitative account of partner countries’ strategies to promote wellbeing in secondary schools. A collection of good practices related to the project’s topic.
- **Focus groups** with teachers, psychologists, social workers, and any other experts on the topic of teenagers’ stress.
- **Surveys** aimed at students from partner countries’ schools to better understand their sources of stress, their coping strategies, and receive suggestions on how they imagine the project’s 3DVWLE.

This report is a summary of the data collected from all partners and presents the various similarities and differences in adolescent stress between the four partner countries. What emerged from the results of this research is that, despite the evident socio-cultural differences, stress equally affects all

## **1. INTRODUCTION**

European students and represents a significant problem that must be addressed within our educational system.

We hope that this research and the other results of this project, will help teachers, psychologists, social workers, and any other related professionals to tackle this problem in the best way. But most of all, we hope that this project will help young people overcome the difficulties of life more healthily, helping them to achieve all their goals.

## 2. DESK RESEARCH

### a) Transnational analysis of secondary education students' stress

The comparison of the second-hand data collected by the partnership shows how all secondary school students of the countries involved in the POSITIVE project (*Portugal, Greece, Spain, and Lithuania*) manifest very similar dynamics regarding stress.

All the national and international reports from official sources (e.g., WHO, OECD, National ministries of Public Health, etc.) evidence, albeit with slightly different intensity and modalities, the following dynamics:

1. **Stress increases with increasing age.** The highest percentage of students affected by stress is reported in secondary schools, where most students complain of excessive study load and strong pressure due to the high expectations placed on them.
2. **Girls are more stressed than boys.** In all the reports analyzed, there was a higher incidence of stress among girls than boys, with very significant differences, as in the case of Greece, where at least 10% more girls than boys declared to feel stressed (Kokkevi et al., 2015).
3. **The COVID-19 pandemic has further increased stress among students.** This fact does not come as a surprise, as countless studies have already amply demonstrated how the great changes brought by COVID-19 have contributed to increasing pre-existing mental health issues (Cullen et al., 2020; Talevi et al, 2020; Vindegaard & Benros, 2020).
4. **Students from low-income families are more prone to stress and mental health disorders.** Students from family backgrounds suffering from socio-economic problems experience greater pressure from adults, which results in increased stress related to academic achievement (MSCBS, 2015).

These similarities highlight how stress represents a broad problem that affects a considerable part of the world's youth population and, therefore, needs to be addressed through concerted efforts. In general, what emerges from this comparative study is that students often feel stressed by the study load. This fact is demonstrated by the percentage of students in Greece who claim to be

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### a) Transnational analysis of secondary education students' stress

satisfied with their relationship with their teachers (Kokkevi et al, 2015). As Fig 1. below demonstrates, the percentage of students claiming to be in a good relationship with their teachers drastically drops from 71% to 35.2% as their age increases.

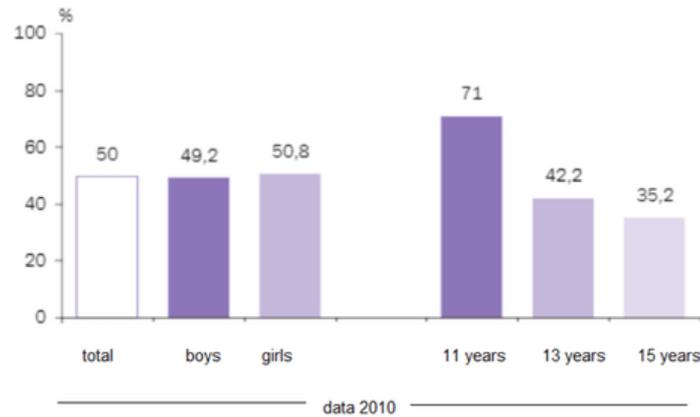


Fig 1. Greek teenagers who are satisfied with the relationship with their teachers (%) (Kokkevi et al., 2015)

Similar results can be found in Portugal, where 35.8% of students do not like classes and 45.1% feel moderate to high pressure due to schoolwork (Matos et al., 2018). Lithuania follows the same trend, with 26% of 11 years-old and 44% of 15 years-old students claiming to feel pressured by schoolwork (Inchley et al., 2020). Finally, in Spain, there has been found a non-negligible increase in mental health disorders related to age. The risk of mental health disorders rises by almost 2 percentage points when children are over 11 years old (MSCBS, 2017).

Concerning the different levels of stress encountered in boys and girls, several assumptions can be made based on gender studies, although their factual verification goes beyond the scope of this research. Nonetheless, it remains relevant to cast assumptions on this issue, to stimulate further reflection on gender differences and teenagers' stress.

According to Högberg and Horn (2022) two sociological processes could explain this difference: "sorting into social categories" and "translation of social categories into social prospects". In the first case ("sorting into social categories") gender roles act as a force shaping the way girls and boys relate to school-based social categories. Thus, as being a "good" and high-achieving student is typically perceived as "feminine", girls feel more pressured to obtain good marks and, therefore, report higher levels of stress. Moreover, girls are often more sensitive to social approval and extrinsic rewards in school, which

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puts even more pressure on standardized tests and school results. In the case of the second process (“translation of social categories into social prospects”), it is stated that a given resource provides relatively greater gains when other options are limited. As girls are generally disadvantaged in most social domains, lacking other resources (e.g., social capital) when entering the labor market, they may be more dependent than boys on formal educational credentials. As already stated, these arguments provide only an example and do not aim to provide an exhaustive explanation of the reported phenomenon. The foregoing aims only to provide tools for more in-depth reflection.

Be that as it may, that teenage girls are on average more stressed than boys remain a proven fact from the data. For example, in Greece, **36.1% of girls** declared to feel stressed due to schoolwork, while the same was reported by **27.8% of the boys** (Kokkevi et al., 2015). Concerning Lithuania, **seven out of ten 15 years-old girls** report feeling stressed, while **half of the boys** admit the same (Blaževič, 2020). Similar results can be found in Portugal (Gaspar et al., 2019) and Spain (MSCBS, 2017).

Regarding the **COVID-19 pandemic**, there is a consensus on its negative impact on students' mental health. However, studies provide different opinions as to the possible causes of this increased stress. For instance, Giannopoulou et al. (2021) suggest that the increase in stress-induced depression in adolescents could be caused by **online teaching** and the **academic pressure** linked to the uncertainty about securing a university placement during the pandemic. However, results from Portugal show that online education did not cause great inconvenience to the students, who, on the contrary, have shown to appreciate the new way of teaching. From this other perspective, social distancing and lockdowns have increased the incidence of depression, anxiety, irritability, and loneliness (Branquinho, Santos & Matos, 2020). The same can also be said for Lithuania, where a study found an increase in adolescents' stress due to COVID-19-related social isolation, prolonged school closure, and risks in families (Rakickienė et al., 2021). However, although this study did not directly measure the impact of virtual lessons, results from the survey research attached to this report (see chapter 4) prove that students were probably not affected by online teaching.

This divergence in students' appreciation of online teaching deserves more attention, as it could lead to the identification of potential good practices for the adoption of digital tools in schools, which, in several countries, remains limited and ineffective.

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### a) Transnational analysis of secondary education students' stress

Finally, the last dynamic evidenced by this research is the correlation between the socioeconomic status of families and secondary education students' stress. In Spain, it was found that the lower the household income, the higher the risk of children developing mental health disorders. For instance, children of unemployed parents have a **one percentage point higher risk of manifesting mental health disorders** when compared with children coming from families in which one or both parents have jobs (MSCBS, 2015). Similarly, research conducted in 2009 to measure the mental health and well-being of school children in 15 European countries (Erhart et al., 2009) evidence how low socioeconomic status harms students' mental health also in Portugal. Also, results coming from the focus groups and the survey research carried out within the POSITIVE project confirm these findings for the other project countries (see chapters 4 and 5).

In conclusion, the comparative analysis of the statistical data on stress reported by students in the four partner countries shows clear similarities. In all 4 countries, secondary education students feel stressed due to the burden of schoolwork and this **stress is higher in girls, older students, and children from low-income families**. In addition, the COVID-19 outbreak appears to have exacerbated these issues, increasing the risk of mental health disorders.

However, we must remember that social and cultural differences among the partner countries mean that mental health problems and stress of high school students manifest themselves with stark dissimilarities in all national contexts. For instance, Lithuania, given its history and socio-cultural context, in addition to stress face serious problems related to youth drug abuse, alcohol consumption, and a high number of suicides among young people. This problem is not very acute in Spain, where the number of juvenile suicides is far below the European average. Fig. 2, below provides a comparison of teenagers' suicide rates between EU countries, clearly showing the lower occurrence of this phenomenon in Spain, Portugal, and Greece, and the unfortunate high incidence in Lithuania.

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### a) Transnational analysis of secondary education students' stress

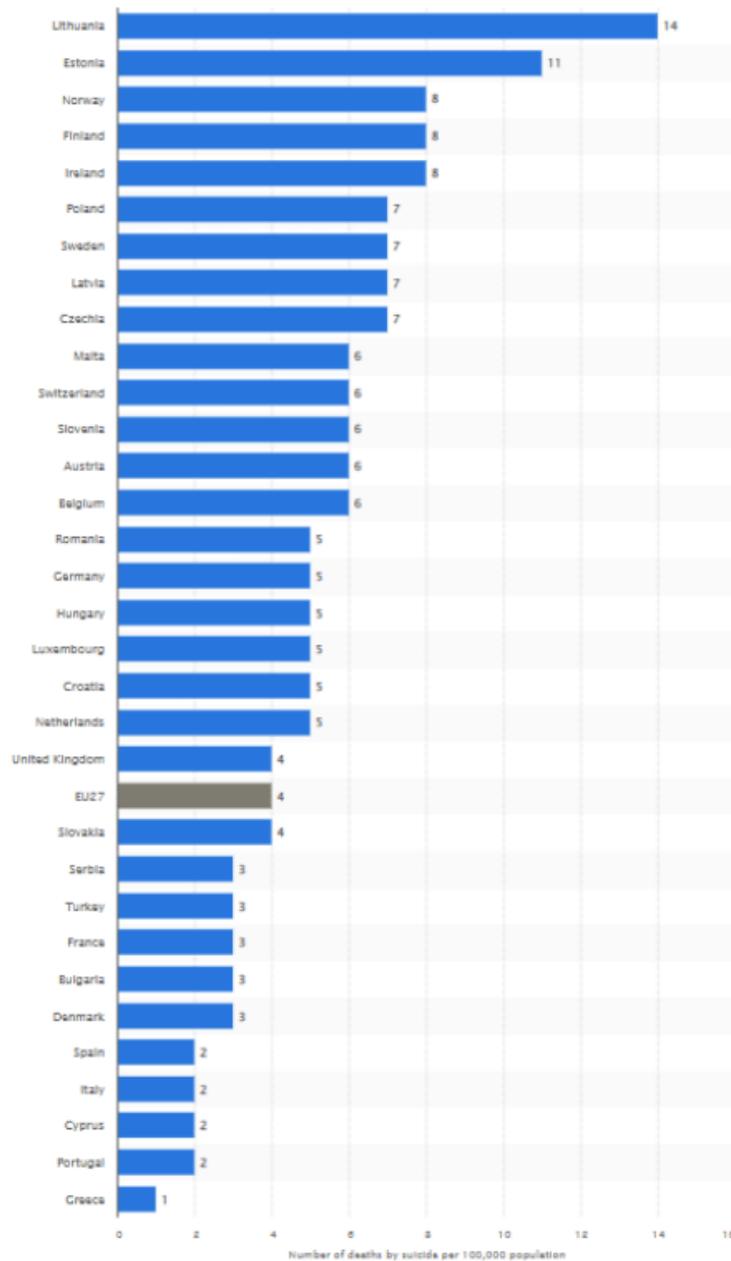


Fig 2. Suicide rate among teenagers in Europe between 2015 and 2017, by country (per 100,000), Source: Statista, 2022

Moreover, although in all partner countries school work represents a considerable source of stress, this variable has a different impact (Figure 3) compares the percentage of 15 years old students feeling pressured in 45 different countries. This shows how the academic work load issue is particularly felt in Spain, Lithuania, and Portugal, but much less so in Greece.

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### a) Transnational analysis of secondary education students' stress

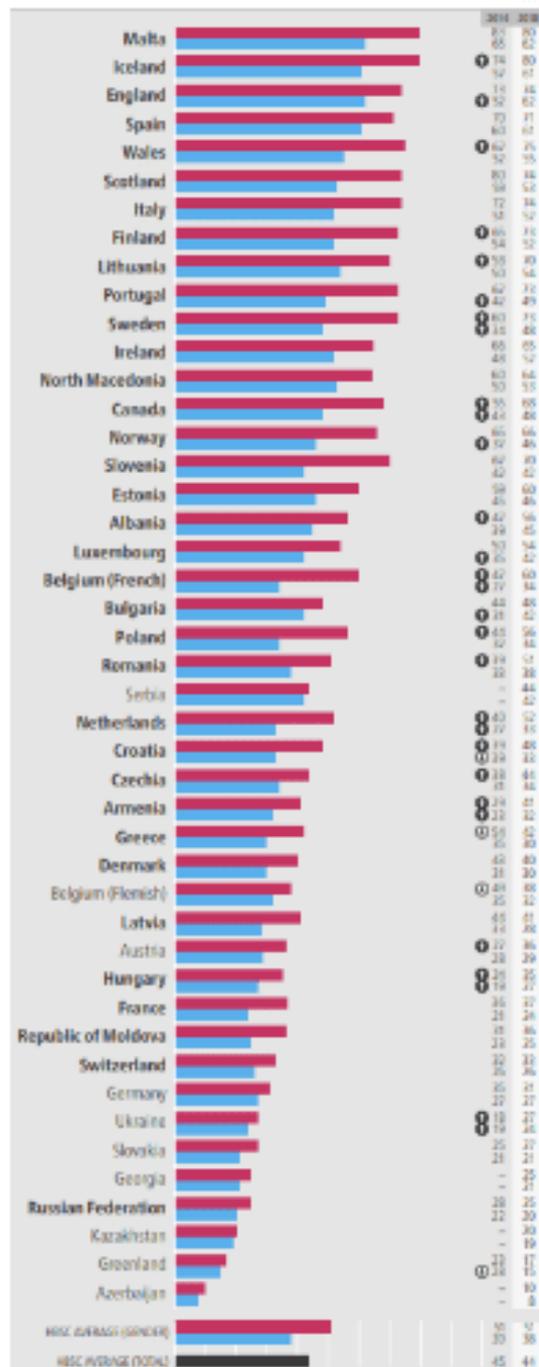


Fig 2. Percentage of 15 years-old students feeling pressured by school work in 45 different countries  
Source: Inchley et al., 2020

These differences must bring us back to the fact that the tools and practices suitable for dealing with the problem of stress among secondary school students can be created within international cooperation and spread in different countries. However, their adoption must always take into account the different national contexts, modifying or re-adapting the tools if necessary.

## 2. DESK RESEARCH

### b) Transnational analysis of policies to promote mental health among young people in Spain, Greece, Lithuania, and Portugal

The following paragraph will compare the national projects, priorities, and policies adopted by the partner countries in the POSITIVE project, namely Lithuania, Spain, Portugal, and Greece.

	Child mental health policy or plan			Adolescent mental health policy or plan		
	Number of countries reporting the existence of a stand-alone or integrated policy/plan (N=168)	Percentage of responding countries reporting the existence of a stand-alone or integrated policy/plan (N=168)	Percentage of these countries reporting that the policy/plan has been updated since 2017 (N=90)	Number of countries reporting the existence of a stand-alone or integrated policy/plan (N=169)	Percentage of these countries reporting the existence of a stand-alone or integrated policy/plan (N=169)	Percentage of responding countries reporting that the policy/plan has been updated since 2017 (N=89)
Global	90	53%	63%	89	53%	66%
AFR	11	29%	55%	11	29%	55%
AMR	20	61%	45%	19	58%	42%
EMR	10	53%	70%	10	50%	70%
EUR	31	67%	68%	30	65%	70%
SEAR	7	88%	71%	8	100%	75%
WPR	11	46%	82%	11	46%	82%

Fig 4. Existence of Mental health policies/plans for children and adolescents by WHO region, Mental HealthAtlas 2020, World Health Organisation (2021), p. 37

According to the Mental Health Atlas 2020 (p.37), developed by the World Health Organisation in 2021, the European are a is above average in terms of policies and plans aimed at promoting children and adolescents' mental health. These actions have become even more relevant now, because of the Covid-19 pandemic and the medium and long-term effects that it will have on people's mental health, including children and adolescents. In general, what emerges from the national reports written by each partner about their countries' situation on mental health is that the attention given to this issue has been growing in recent years and that the Covid-19 pandemic played a role in this.

To make these policies effective, the importance of psychologists and their role in schools has been emphasized in all national reports developed under the POSITIVE project.

In the "Mental Health Strategy" of the Spanish National Health System, 2022-2026 (Suárez, 2022) the "Strategy number 5" specifically addressed the mental health of children and adolescents. It stressed the importance of ensuring accessibility to mental health support in educational settings by establishing partnerships with mental health experts and communities.

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### b) Transnational analysis of policies to promote mental health among young people in Spain, Greece, Lithuania, and Portugal

The strategy also aimed at strengthening the training of school psychologists, school nurses, and social workers in recognizing and monitoring mental health problems in schools, by creating synergies with other mental health services.

Also in Greece, a series of studies have confirmed the positive opinion of stakeholders in the school community regarding the role of school psychologists and the recognition of their multidimensional roles (Hatzichristou et al., 2011). Having said that, the role they play in schools is usually limited to the assessment of students with Special Educational Needs (SEN), and parent and teacher counseling for students' behavioral disorders, while they wish to expand it and create a more systemic intervention in schools. In fact, in the Greek National Report, there's a **call for action for the Ministry of Education the design a long-term system of school psychological services.**

In Portugal, despite the 2017 approval of the "National Programme for the Mental Health" (Carvalho, 2017), the goals aimed at providing greater support for the mental health of the population and in particular of young people have been largely unfulfilled. This is evident from the fact that the ideal ratio psychologist-students in the school settings would be 1 psychologist per 500 students, while in **Portugal it is 1 psychologist for 694 students (from pre-primary to secondary education) and 1 psychologist for 3238 higher education students** (Matos et al., 2018).

In Lithuania the health system pays attention to health care in schools, employing public health specialists, all placed in schools by the Public Health Bureaus (STRATA, 2021). They usually work together with teachers, parents, psychologists, and social workers to preserve and improve the students' mental health. However, to guarantee high-quality support, **it is needed to define more systematically the role of social teachers and in-house psychologists and their functions.**

From the reports of Greece, Portugal, and Lithuania we can deduce that despite general recognition of the importance of the role of school psychologists, structural problems remain in place, which is related to the **lack of definition of their roles, the low number of school psychologists employed, and the lack of a structured and comprehensive national plan** that creates stable synergies between the mental health and school sectors.

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### b) Transnational analysis of policies to promote mental health among young people in Spain, Greece, Lithuania, and Portugal

In particular, what emerges from the Greek research is that when talking about mental health we cannot consider the family, the school, and the society as elements in dependent from each other, but instead **we need to address them as highly interdependent spheres of a person's mental health**. Trying to give psychological support to young people by intervening in only one of these aspects does not lead to satisfactory results. In Greece, the type of programs that are adopted by schools to cope with mental health-associated issues (drug and alcohol abuse, violence, etc.) are still driven by the logic of fragmentation and lack of large-scale effectiveness.

In Portugal, efforts have been made to compensate for the lack of an adequate number of school psychologists by increasing projects aimed at **raising awareness among students and teachers regarding social-emotional education**. The acquisition of skills related to this subject helps to reduce stress and to promote social awareness, self-management, self-awareness, and relationship skills (CASEL, 2020).

In contrast with the Greek case, a more holistic approach has been adopted within the Spanish and the Lithuanian strategy. Together with the attention dedicated to the role of school psychologists, the Mental Health Strategy of the Spanish National Health System 2022-2026 (Suárez, 2022) stressed the importance of interventions that support parents. **Parents play a key role in detecting and sustaining young people with mental health problems** and that is why the Strategy foresees the creation of participatory programs to promote and strengthen parenting skills for a positive parenting approach. Together with parents, also other stakeholders such as family doctors, primary care pediatricians, and nurses have been identified as subjects that can play an important role in sustaining young people's mental health. In particular, the Strategy foresees **the creation of education programs for these stakeholders**, to help them assess children and adolescents at risk of depression and mental health problems.

Since 1993, Lithuania has been participating in the European Network for Health Promoting Schools (ENHPS), an initiative promoted by the World Health Organization (WHO), which includes many European countries. The **ENHPS**, in contrast to traditional health education programs, which focused on single issues, **promotes the implementation of activities at the local, regional, national, and international levels to improve schools' physical environments and address health-related topics**.

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### b) Transnational analysis of policies to promote mental health among young people in Spain, Greece, Lithuania, and Portugal

Another important topic addressed within the policies adopted by the four countries is raising people's awareness of mental health problems and the importance of having psychological support. This element is critically important if we are to breakdown stereotypes related to mental illness, promote inclusion, and ensure effective support for those suffering from these disorders. In Lithuania, for example, the Strategic Goal 2 of the "National Progress Plan for 2021-2030" seeks to improve the physical and mental health of the population, while also promoting the inclusion of disadvantaged citizens (The Government of the Republic of Lithuania, 2020). The same is happening, although in a less institutionalized way, in Portugal and Greece. In fact, in Greece, despite the fragmentation of state and regional interventions, the figure of the school psychologist and the perception of their importance has spread, and the same is happening in Portugal with the attention devoted to the topic of socio-emotional education. Finally, the Spanish Mental Health strategy contained, among the list of specific objectives, to "promote awareness-raising campaigns among key groups: social, educational and health professionals, family members, police, teachers, journalists, university students, high school students" (Suárez, 2022).

In conclusion, despite the substantial differences in the approach the four countries are adopting, there are also many commonalities. People in Europe are benefiting from increased attention devoted to these issues, and we can legitimately expect further actions to support the mental health of children and adolescents.

### 3. EUROPEAN AND NATIONAL GOOD PRACTICES ON STUDENTS' STRESS MANAGEMENT AND WELLBEING

#### a) Spanish good practice in children and adolescents' mental health promotion

This chapter includes good practices coming from the four European Countries (Spain, Lithuania, Portugal, and Greece) in the field of children and adolescents' mental health promotion. One good practice per country has been selected and reported in this chapter, but more good practices are available at the end of the document as Annexes.

GENERAL DESCRIPTION OF THE GOOD PRACTICE presented by COLEGIO LOS PINOS (ES)	
COUNTRY	Spain
NAME OF THE PROJECT/COURSE	Mental health literacy programme "EspaiJove.net" ( <a href="http://www.espaijove.net">www.espaijove.net</a> )
DESCRIPTION OF THE PROJECT/COURSE	The general objective of the programme is the promotion of mental health and the prevention of mental disorders in the youth population.
TARGET GROUP	Adolescents between 12 and 18 years of age, and who are studying E.S.O., Bachelorette or formative cycles in educational centres.
GENERAL AIM	Improve the health of adolescents through health promotion actions, prevention of risk situations and early care for problems related to mental health, affective and sexual health, drug, alcohol and tobacco consumption, in collaboration with educational centres and community health services present in the territory. Promotion of mental health, prevention of mental disorders, eradication of stigma and improvement of help-seeking in the young population. The programme is based on the hypothesis that adequate information and knowledge about mental health and mental disorders in adolescents, young people and professionals in contact with them will lead to a better recognition of them, as well as a greater differentiation in the perception of different emotional states.
SPECIFIC OBJECTIVES	<ul style="list-style-type: none"> <li>• Improve mental health literacy.</li> <li>• To learn about and promote healthy mental health behaviours.</li> <li>• To understand and reduce risk behaviours for mental health.</li> <li>• To increase knowledge of mental health problems and manifestations of disorders in their early stages.</li> <li>• To facilitate early detection of mental disorders.</li> <li>• To provide guidance on available resources for mental health promotion, prevention, assessment, and treatment.</li> <li>• To reduce the stigma associated with mental disorders.</li> <li>• To favour the social inclusion of those who suffer from mental disorders.</li> </ul>

### 3. EUROPEAN AND NATIONAL GOOD PRACTICES ON STUDENTS' STRESS MANAGEMENT AND WELLBEING

#### a) Spanish good practice in children and adolescents' mental health promotion

<p><b>LEARNING MODULES/OUTCOMES ASSOCIATED</b></p>	<p>The programme has 27 information sheets for young people with information on different topics:</p> <ol style="list-style-type: none"><li>1) Youth Mental Health Space;</li><li>2) Adolescence;</li><li>3) Social skills;</li><li>4) Bullying;</li><li>5) Concept of Mental Health;</li><li>6) Mental Disorder;</li><li>7) Healthy Behaviours;</li><li>8) Risk behaviours;</li><li>9) Multidisciplinary mental health team;</li><li>10) Community network of services;</li><li>11) Anxiety;</li><li>12) Depression;</li><li>13) Self-harm and self-harm ideation;</li><li>14) Psychotic disorder;</li><li>15) Schizophrenia;</li><li>16) Bipolar disorder;</li><li>17) Eating behaviour disorders (ED);</li><li>18) Attention deficit disorder (ADD);</li><li>19) Attention deficit disorder (ADD);</li><li>20) Borderline personality disorder (BPD);</li><li>21) Obsessive compulsive disorder (OCD);</li><li>22) Substance abuse disorders;</li><li>23) Cyberbullying;</li><li>24) Our emotions;</li><li>25) Grief;</li><li>26) Stigma;</li><li>27) Suicide;</li><li>28) Anxiety and stress.</li></ol>
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### 3. EUROPEAN AND NATIONAL GOOD PRACTICES ON STUDENTS' STRESS MANAGEMENT AND WELLBEING

#### b) Lithuanian good practice in children and adolescents' mental health promotion

GENERAL DESCRIPTION OF THE GOOD PRACTICE presented by VšĮ "eMundus"	
<b>COUNTRY</b>	Lithuania, Bulgaria, Greece, Italy, Portugal
<b>NAME OF THE PROJECT/COURSE</b>	The project name is "Socio-emotional Capacity Building in Primary Education- PsSMILE" (2019-1-LT01-KA201-060710) <a href="http://smile.emundus.lt/">http://smile.emundus.lt/</a>
<b>DESCRIPTION OF THE PROJECT/COURSE</b>	<p>The project is based on the assumption that there's an unbalanced distribution of time and attention dedicated to "regular subject" teaching and learning, and the time and attention dedicated to socio-emotional education. The European educational system is more focused on transferring knowledge rather than helping pupils develop soft skills and emotional intelligence.</p> <p>Being Emotional Intelligent is, according to the project, connected with people's capacity to recognize their emotions and the ones of others and to manage, adapt and adjust their behaviours and thinking. Within the project, different results (i.e., Intellectual Outputs) were foreseen in order to reach its goals:</p> <ol style="list-style-type: none"> <li>1) Methodological material for socio-emotional skills development. This output includes: a national state of the art report on socio-emotional learning (SEL) in partner countries; a report related to the challenges of the socio-emotional development in primary education; a report related to statistics and data on target groups' situation.</li> <li>2) Training programme on socio-emotional capacity building. The training programme will "teach to teachers" how they can enhance and encourage the students' socio-emotional development.</li> <li>3) App for socio-emotional capacity building. The app will be used by teachers and parents and will guide them through the various components of SEL. It will set daily activities to better develop their emotional potential and improve their knowledge on SEL.</li> <li>4) e-learning course on socio-emotional capacity building. The training course for teachers will be adapted to the digital setting.</li> </ol> <p>The project's expected impact includes the raised awareness and knowledge of the society on socio-emotional learning and emotional intelligence. Moreover, the educational context and the quality of schools' education is expected to increase. Teachers will have curricula and activities ready to be used in their schools on SEL.</p>
<b>TARGET GROUP</b>	Children from 6 to 10 years old; teachers; caregivers.
<b>GENERAL AIM</b>	The project aims at building emotionally stable, inclusive, and healthy communities by transmitting to teachers and parents how to take care of their own socio-emotionality and support children in doing the same

### 3. EUROPEAN AND NATIONAL GOOD PRACTICES ON STUDENTS' STRESS MANAGEMENT AND WELLBEING

#### b) Lithuanian good practice in children and adolescents' mental health promotion

<p><b>SPECIFIC OBJECTIVES</b></p>	<ul style="list-style-type: none"> <li>- to empower teachers and parents with effective tools to guide the socio-emotional development of their children;</li> <li>- to create guidelines for educators <u>in order to</u> transmit them knowledge and skills in socio-emotional development;</li> <li>- to develop an online platform to collect and disseminate materials;</li> <li>- to raise awareness in local and European communities about the importance of socio-emotional development.</li> </ul>												
<p><b>LEARNING MODULES/OUTCOMES ASSOCIATED</b></p>	<table border="1"> <tr> <td data-bbox="611 763 694 869">1.</td> <td data-bbox="694 763 1417 869">The PsSMILE Approach &amp; Socioemotional Learning: this first section describes the PsSMILE approach, goals, focuses, and methodological material.</td> </tr> <tr> <td data-bbox="611 869 694 974">2.</td> <td data-bbox="694 869 1417 974">Smile to Myself: Being aware of yourself: this module reflects multiple intelligences and describes in detail the "smile to myself" domain.</td> </tr> <tr> <td data-bbox="611 974 694 1117">3.</td> <td data-bbox="694 974 1417 1117">Smile to Society: Being aware of other and society: this module deals with the concept of empathy, being sympathetic vs being empathetic, the theory of the mind. It also describes in detail the "smile to society" domain.</td> </tr> <tr> <td data-bbox="611 1117 694 1301">4.</td> <td data-bbox="694 1117 1417 1301">Smile to My Present and My Future: Being able to manage yourself: this module deals with socio emotional decision-making, Carol Dweck's mindsets, Polyvagal Theory and describes in detail the "smile to my present and future" domain.</td> </tr> <tr> <td data-bbox="611 1301 694 1485">5.</td> <td data-bbox="694 1301 1417 1485">Smile to Others: Managing positive relationships with others: through this module, people can reflect on diversity and inclusion, teamwork, the idea of great places. The module describes in detail the "smile to others" domain.</td> </tr> <tr> <td data-bbox="611 1485 694 1628">6.</td> <td data-bbox="694 1485 1417 1628">Smile Together: Reflective Assessment Socioemotional Skills of Self and Others: this module deals with socioemotional learning skills evaluation and self-evaluation tools.</td> </tr> </table>	1.	The PsSMILE Approach & Socioemotional Learning: this first section describes the PsSMILE approach, goals, focuses, and methodological material.	2.	Smile to Myself: Being aware of yourself: this module reflects multiple intelligences and describes in detail the "smile to myself" domain.	3.	Smile to Society: Being aware of other and society: this module deals with the concept of empathy, being sympathetic vs being empathetic, the theory of the mind. It also describes in detail the "smile to society" domain.	4.	Smile to My Present and My Future: Being able to manage yourself: this module deals with socio emotional decision-making, Carol Dweck's mindsets, Polyvagal Theory and describes in detail the "smile to my present and future" domain.	5.	Smile to Others: Managing positive relationships with others: through this module, people can reflect on diversity and inclusion, teamwork, the idea of great places. The module describes in detail the "smile to others" domain.	6.	Smile Together: Reflective Assessment Socioemotional Skills of Self and Others: this module deals with socioemotional learning skills evaluation and self-evaluation tools.
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### 3. NATIONAL GOOD PRACTICES ON STRESS MANAGEMENT'S AND STUDENTS' WELLBEING PROMOTION

#### c) Portuguese good practice in children and adolescents' mental health promotion

GENERAL DESCRIPTION OF THE GOOD PRACTICE	
<b>NAME OF THE PROJECT /COURSE</b>	"Mindserena - Projeto de aprendizagem socioemocional – mindfulness em contexto educativo"
<b>DESCRIPTION OF THE PROJECT/COURSE</b>	<p>"Mindserena" project aims to develop students' and teachers' socioemotional skills, more specifically attention skills, self-management skills, prosocial behaviours and nature respect.</p> <p>This project was created to act with two different scholar groups:</p> <ol style="list-style-type: none"> <li>1. Teachers – this target group has two workshops. One of eight weeks about self-development through mindfulness, and another with three sessions about the capacity of applying mindfulness on class context.</li> <li>2. Students – this target group will develop their socioemotional skills on three different contexts: (1) classes, (2) sessions of the project and (3) at home, through oriented practices developed by "Mindserena" team.</li> </ol> <p>Regarding the project implementation in class, first it was important to train teachers to be capable of implementing mindfulness strategies with their students and on their classes. Second, "Mindserena" Project has a total of eight sessions with students. Each one address different topics of socioemotional learning, such as compassion, gratitude or self-care (Oliveira et al., 2019).</p>
<b>TARGET GROUP</b>	Students from middle school and their teachers.
<b>GENERAL AIM</b>	Promote school success through socioemotional learning, more specifically attention skills, self-management skills, prosocial behaviours and nature respect.
<b>SPECIFIC OBJECTIVES</b>	<p>The specific objectives have to be divide considering the target groups.</p> <ul style="list-style-type: none"> <li>• Teachers: (1) Improve socioemotional skills as well as attention skills; (2) Promote an attitude of openness to experience, curiosity and trust; (3) Promote focused attention; (4) Promote attitudes of empathy and kindness with themselves and with others; (5) Improve training skills related to corporal posture and breath; (6) Develop skills related to implementing mindfulness strategies and exercises at class context; (7) training self-management strategies that should be implemented with students; and (8) Improve the competence of leading with challenging situations on classes.</li> <li>• Students: (1) Improve attention and focus on scholar activities; (2) Reduce anxiety and improve reassurance answers; (3) Increase interoceptive and proprioceptive awareness; (4) Recognize emotions, feelings and thoughts; (5) Increase prosocial behaviours (Oliveira et al., 2019).</li> </ul>
<b>LEARNING MODULES/OUTCOMES ASSOCIATED</b>	<ol style="list-style-type: none"> <li>1. Autopilot &amp; Mindfulness</li> <li>2. The neurobiology of the brain and emotions</li> <li>3. The sustainable development goals</li> <li>4. The optimism</li> <li>5. Resilience and courage</li> <li>6. Generosity and compassion</li> <li>7. The gratitude</li> <li>8. Self-care and we</li> </ol>
<b>SOURCES/REFERENCES</b>	Oliveira, A. L., Quadros, C., Mano, P., Nunes, R., Pinheiro, R., Castilho, P., & Marques, A. (2019). <i>Mindserena – presente do presente: O Projeto</i> . <a href="https://www.mindserena.org/">https://www.mindserena.org/</a>

### 3. NATIONAL GOOD PRACTICES ON STRESS MANAGEMENT'S AND STUDENTS' WELLBEING PROMOTION

d) Greek good practice in children and adolescents' mental health promotion

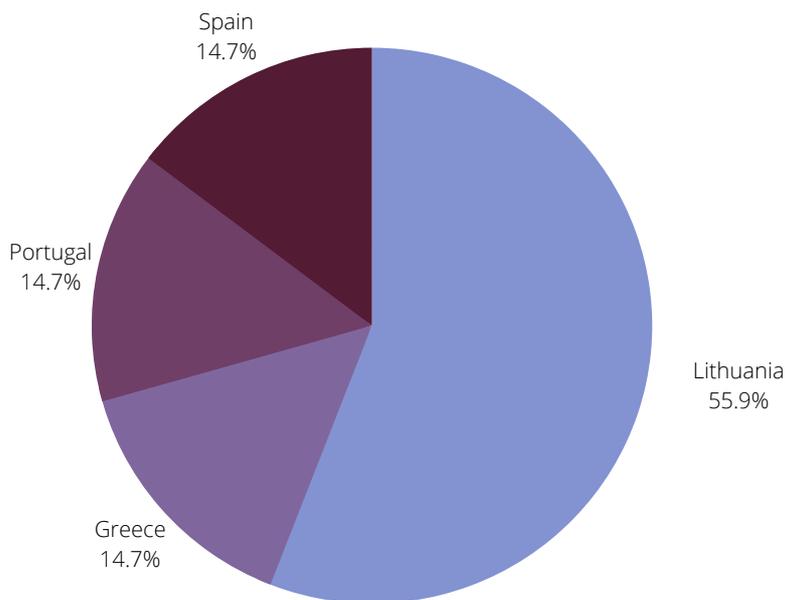
<b>GENERAL DESCRIPTION OF THE GOOD PRACTICE presented by Arsakeio lyceum of Patras</b>							
<b>COUNTRY</b>	Greece						
<b>NAME OF THE PROJECT/COURSE</b>	Feeling CARED in School: A Journey Around the World						
<b>DESCRIPTION OF THE PROJECT/COURSE</b>	Feeling CARED in School is an international school project organized by the Laboratory of School Psychology at the National and Kapodistrian University of Athens, the ISPA School Psychology Trainers Task Force, and the ISPA Student Organizing Committee that encourages students attending elementary and secondary schools in countries around the world to demonstrate how their school can function as a place of care for them.						
<b>TARGET GROUP</b>	Students attending elementary and secondary schools						
<b>GENERAL AIM</b>	The school as a system encompasses elements that can facilitate its members' adjustment and development; it has a protective role; and it provides opportunities for students to grow, develops skills, and psychologically strengthen even during challenging times.						
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>- To highlight the role of class/school as a place that promotes and fosters children's resilience especially during trying and exceptional times.</li> <li>- To inspire other school communities internationally to demonstrate how students can feel cared for in their school communities.</li> </ul>						
<b>LEARNING MODULES/OUTCOMES ASSOCIATED</b>	<table border="1"> <tr> <td>1.</td> <td>Psychologically strengthen</td> </tr> <tr> <td>2.</td> <td>Acceptance by accounting for our different needs</td> </tr> <tr> <td>3.</td> <td>Contribute to identifying and developing our strengths</td> </tr> </table>	1.	Psychologically strengthen	2.	Acceptance by accounting for our different needs	3.	Contribute to identifying and developing our strengths
1.	Psychologically strengthen						
2.	Acceptance by accounting for our different needs						
3.	Contribute to identifying and developing our strengths						
<b>SOURCES/REFERENCES</b>	<a href="http://www.centerschoolpsych.psych.uoa.gr/images/pdf/International-Project-SCHOOL-WELL-BEING.pdf">http://www.centerschoolpsych.psych.uoa.gr/images/pdf/International-Project-SCHOOL-WELL-BEING.pdf</a>						

# 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

## a) The respondents' profile

The questionnaire was developed by the Positive project's partners with the aim of collecting students' insights and opinions on the project's topics. In fact, the questionnaire is divided into 3 main sections: the first one is related to the respondents' profile, the second one with their level of stress and stressors and the third one with the 3D Virtual World Learning Environment. It was distributed as a Google Forms among students between March and May 2022 in the four partner countries, i.e. Greece, Spain, Lithuania and Portugal.

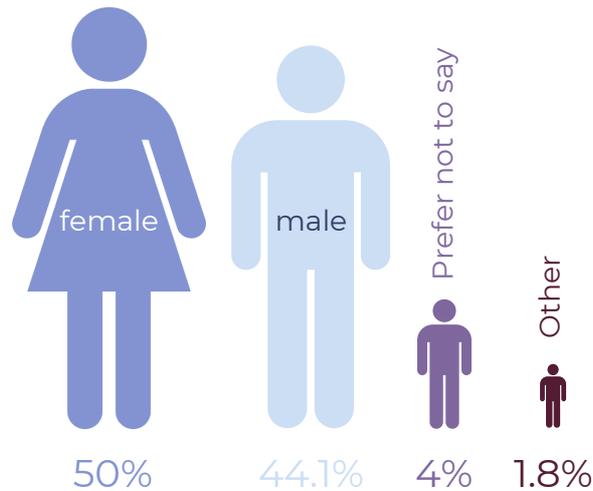
A total of **272 students answered the questionnaire**. The participants came from the following countries:



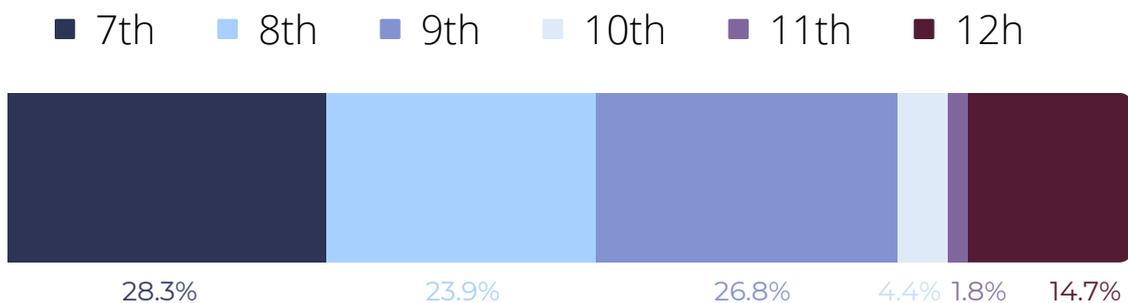
Half of the respondents identified themselves as "female", while 44.1% as "male". A total of 4% of respondents preferred not to say their gender, while 1.8% chose the category "Other".

## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

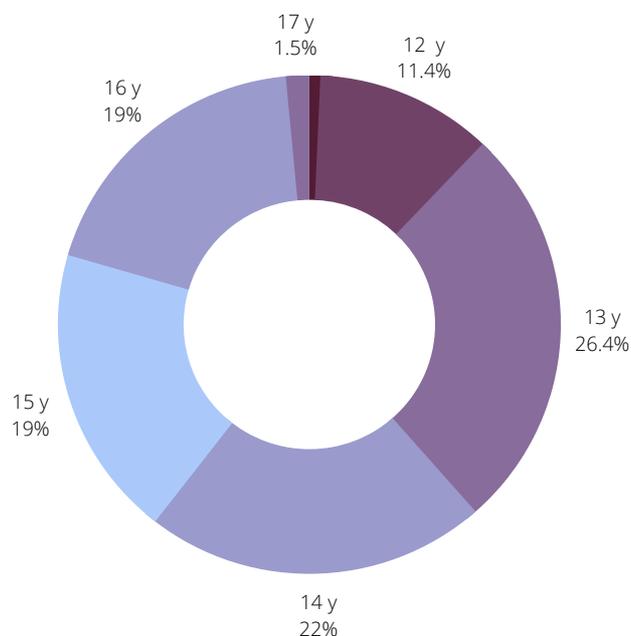
### a) The respondents' profile



79% of the respondents attended either the 7th, 8th, or 9th grade, while the other proposed grades (10th / 11th / 12th / 13th) included just the remaining 21%.



When asked about the age, we can notice that the vast majority of the respondents are between 12 and 16 years old. Only 0.7% were aged 11 and 1.5% were aged 17. The largest category is 13-year-old students.



## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

### b) Collected data about stress and stressful situation

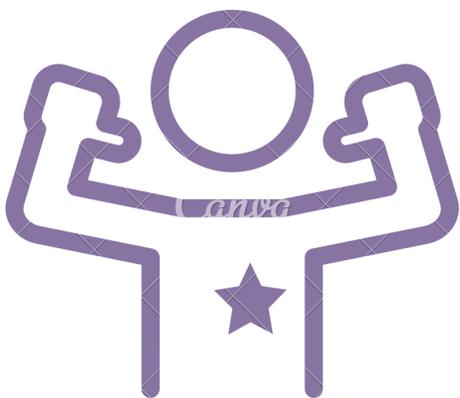
Students' were asked how stressed they feel on a daily basis and the results reveal that just 9.2% of them are "very stressed". **33% of them gave a score of 3 to their stress level**, which means that they do feel stress on a daily basis, but more on a medium to low level.

**36.2%**

of the students have to low to very low levels of stress daily

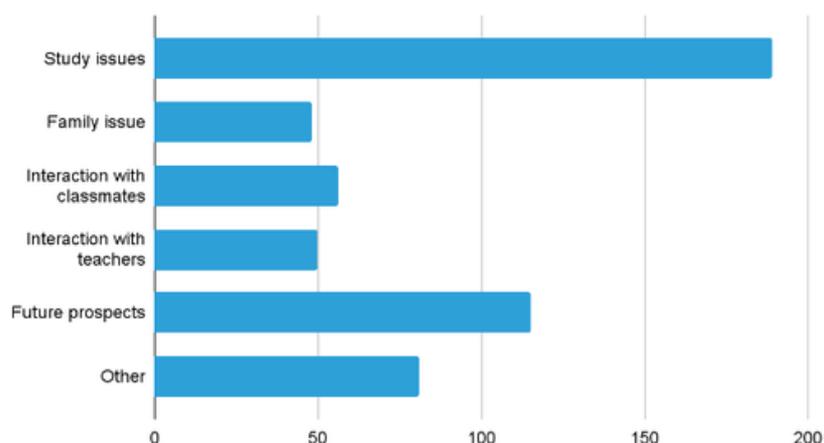
**30.8%**

of the students have high to very high levels of stress



When asked about rating their **level of confidence in managing stress**, more than half (57,8%) of the respondents from the 4 European countries provided a score of 3 or lower. While it is quite encouraging that 42.2% said they are confident or very confident that they can manage stress, there is still a lot to do to make this percentage increase further.

From the data analysis, it is clear that **the main source of stress for students is represented by the issues related to their studies**. The second most common source of stress is related to future prospects and the third to the relationship with classmates. Most of the people who selected the option "other" indicated sources of stress that were already mentioned in the proposed list. Some new sources of stress that were indicated are sport's result, others' opinion, talking in public, time management, social pressure. In order to collect data about the sources of stress, and considering that the same person can identify various stressors, students were allowed to provide more than one answer to this question.



## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

### b) Collected data about stress and stressful situation

TOP situations in which students feel stressed inside each main source

#### Study issues

1.º

Failing on exams

2.º

Lack of time to fulfil all the activities

#### Future perspectives

1.º

Future academic perspectives

2.º

Finishing secondary education

#### Family issues

1.º

Family pressure to obtain good grades

2.º

Family discussions and conflicts caused by students' studies

#### Interactions with classmates

1.º

Maintain their reputation

2.º

Conflicts with a classmate

#### Interactions with teachers

1.º

Teachers' expectations

2.º

Intervention in class

What emerged from the data is that what students find more stressful is failing exams, followed by the lack of time to fulfil all the activities they are asked to do and by taking oral exams. What students are less worried and stressed about is the online teaching and learning followed by the pressure of obtaining good grades.

Students were confronted with three possible sources of stress in the family environment related to studying, but the data indicate that the majority of students consider them all to be of little/no stress. In fact, it can be seen that the same number of students stated that they found the three proposed items "very stressful," while most students stated the opposite. It can be seen from the graph, however, that on average the element that is found most stressful is parental pressure to get good grades in all subjects.

## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

### b) Collected data about stress and stressful situation

On average, **students' are not stressed by their interactions with teachers.** In particular, they don't feel stressed by dealing with teachers outside the classroom, nor by potential problems or conflicts with teachers. Having said that, on a scale from 1 to 5, **some students have given a score of 3 or higher to the "teachers' expectations", "intervention in class" and to the "lack of support from teachers".** This means that, although interaction with teachers does not worry them too much, some students are more stressed than usual when it comes to these topics.

When asked about stressors linked with the interactions with their classmates, a big majority of the respondents find them either "not stressful at all" or of little stress. Particularly, **they are not stressed by working in groups with them, while their reputation within the class is something they are a little bit more worried about.** This data reflects what was anticipated, that was clearly shown that the students are mostly stressed by studies issues and future perspectives.

Regarding the stressors presented to students related to "future prospects", there was a wide variety of responses. **The Covid-19 pandemic effects on their future proves to be the thing students are least concerned about.** This data, together with that on online teaching, allows us to conclude, with due caution, that in general, the pandemic does not seem to be one of the items that students find stressful or about which they are most concerned. **The number of students who, on a scale of 1 to 5, gave a score of at least 3 is higher for the item "future academic perspective",** followed by "finishing secondary education".



#### Emotional effects of stress

When asked to describe with their own words a stressful situation, **most of the respondents reiterate the answers provided above.** Many of them described situations related to having to speak in public and to the lack of motivation and energy due to the heavy workload they have. Indeed, respondents pointed **out that they feel overwhelmed by academic activities** (school time and homework) and by extracurricular activities. Some respondents also mentioned that the **standardised tests are a source of stress,** especially when there's more than one test scheduled on the same day, or the parent-teacher talks. Students also mentioned that they feel stressed when they see someone in difficulties but they cannot help them. Instead of pointing to the high expectations of teachers and parents as a cause of stress, some students from Spain and Greece indicated the low expectations that they have as a source of frustration.

## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

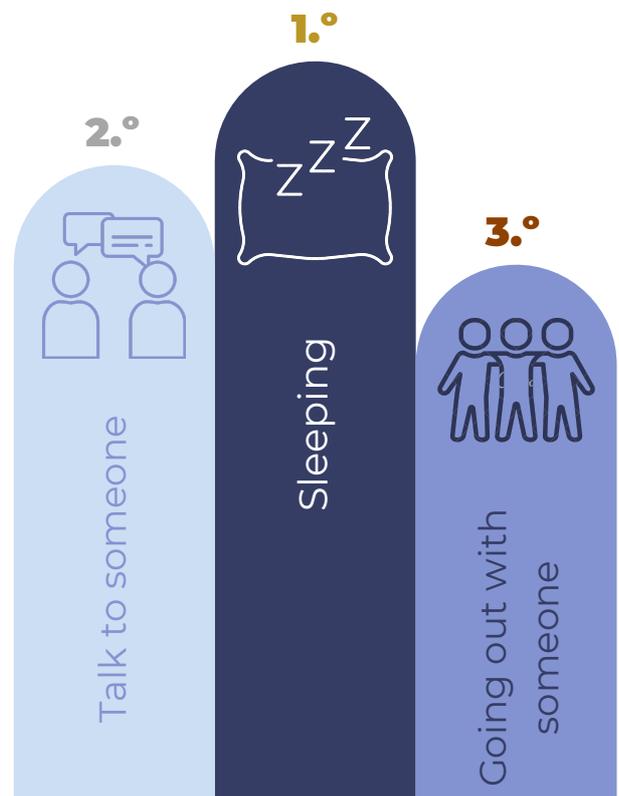
### b) Collected data about stress and stressful situation

#### Students' personal methods to relieve stress

After investigating when, with whom, and why students feel stressed, they were asked what they do to feel better and relieve stress. In this case, more than one answer per participant to the questionnaire was acceptable. Almost all the students chose one or more of the items proposed, while few of them selected "none of the above". **What respondents usually do to relieve stress is either sleep or talk with someone, followed by going out with someone.** What they are not really likely to do is to go shopping. The people who answered none of the above/other were asked to motivate their answer.

They mentioned:

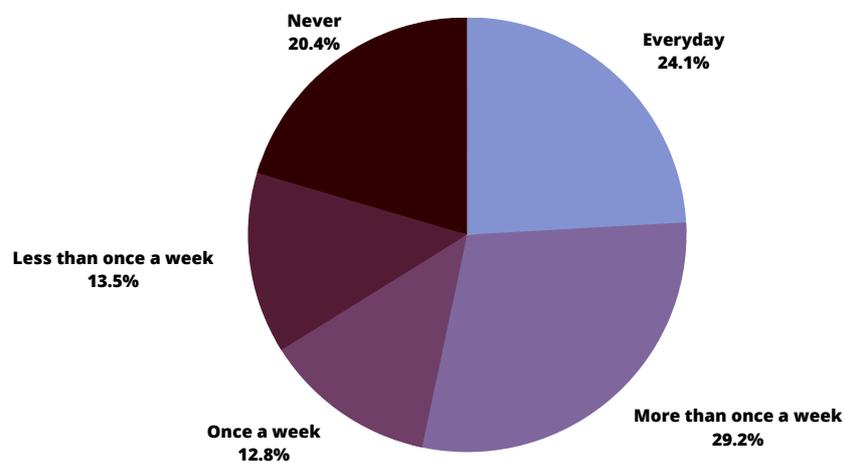
- meditation;
- reading;
- listening to the music;
- watching a movie;
- drawing;
- spending time with animals;
- taking time for themselves;
- crying.



#### 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

##### c) Collected data about the “3D Virtual World Learning Environment” (3D VWLE)

The last section of the questionnaire was related to the 3D Virtual World Learning Environment and to the functionalities that students wish to find in a game-based learning platform. The first question aimed at understanding how often students play with videogames. Slightly more than 50% of respondents (i.e. 53,3%) usually play either every day or more than once per week with videogames. If we add to this percentage the one related to students' that play once a week we obtain 66,1%. This tells us that although it is quite common for students to play videogames, there is a good portion of them (33,5%) who play games infrequently or never.



When asked about the gamified mechanisms they prefer, students indicate the open-world map with multiple locations, the character development, and the avatar personalization as the ones they like the most. Virtual escape rooms, non-verbal communication, and minigames are the least appreciated.

- multiple locations
- character development
- avatar personalization

About cooperative play and social interaction, students are willing to play with a game that allows voice communication and that has a chat. Cooperative tasks and missions are also appreciated by more than half of the respondents. Students have a more neutral opinion on “virtual items and media sharing”, as most of them rated it with a 3.

## 4. THE ANALYSIS OF THE STUDENTS' QUESTIONNAIRE

### d) Insights and main findings

The percentage of respondents who declare not to be stressed at all on a daily basis (15.4%) is higher than the percentage of those who declare to be “very stressed” (9.2%). 33% of respondents rated their daily stress level with a 3, and this, combined with the other data, can lead us to the conclusion that most of the students feel stressed on a daily basis, but on a medium to low level.

It is interesting to combine these data with the ones related to the students' confidence level to manage stress. In this case, more than half (57,8%) of the respondents evaluated their confidence level as a 3 or lower. Therefore, we can derive that, although the level of daily stress among students is medium to low, their ability to manage their emotions when they feel stressed is limited. From the data analysis, it is clear that the main source of stress for students is represented by the issues related to their studies. The second most common source of stress is related to future prospects and the third to the relationship with classmates.

Going more into details, among the study issues proposed the one students' are most worried about is failing an exam, followed by taking oral exams and the lack of time to fulfil all the activities they have to do. Taking written exams, the task of studying and the responsibility to fulfil academic duties were mostly rated with a “3” which means that can be considered as moderate sources of stress. Most of the respondents declared not to be stressed or worried about the effects of Covid-19 pandemic on their future, nor about the online teaching/ learning. Despite the common opinion sustaining the contrary, the students involved in this research are on average not very concerned about the effects of the pandemic on their present (online teaching) and future.

Starting from the fact that the proposed situations of study-related family stress did not emerge as the main source of stress, it can be said that on average the element that is found most stressful is parental pressure to get good grades in all subjects.



## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

In addition to the secondary (Desk Research) and primary research aimed at students (Survey reports), all partners carried out a focus group involving experienced professionals who are personally interested in adolescent stress. The main groups involved in this activity are **education staff** (teachers, headmasters, school coordinators, etc.) and **mental health experts** (psychologists, socialworkers, university professors, etc.).

The Focus Groups have been carried out between **March and May 2022**. Each partner reached from 5 up to 12 experts for this activity, which involved from 1 up to 2 hours of extensive discussion on the causes and effects of stress in secondary education students, and the role of gamification in its management and alleviation.

This final research complements the previous two, illustrating the point of view of the experts directly involved in the issue at hand. If on the one hand, the Desk Research shows the opinion of the experts at a macro and socio-political level, and the Survey Reports illustrate the point of view of the students, who are the subjects experiencing the problem first hand, the Focus Groups have allowed drawing a clear picture of how teachers, psychologists, school counselors, and other professionals deal with this issue daily.

In the following paragraphs, it will be exposed as a synthesis of the results obtained by all partners. What emerged is in line with the conclusions drawn from the Desk Research and the Survey Reports. The interviews highlighted the same stressors reported in the Survey Reports and Desk Research as causes of stress in adolescents. Their observations added to the discussion a different perspective on the strategies and possible techniques to improve stress management and relief in students. Furthermore, their point of view on the use of gamification and, in particular, the use of the 3D VWLE as a support tool for stress management, brings further support to the design of a videogame that effectively answers the needs of the target audience.

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### a) The participants' profile

Below, is table that provides a graphical description of the profile and number of participants aggregated and broken down by partner country. As explained above, the main participants were education staff (teachers, headmasters, school counselors, etc.) and mental health experts (psychologists, social workers, university professors, etc.). One additional category is "Others", which comprehends managers and staff members from partner organizations and other institutions, who cannot be listed under the previous two categories.

PARTNER COUNTRY	EDUCATION STAFF	MENTAL HEALTH EXPERTS	OTHERS	NUMBER OF PARTICIPANTS
 LITHUANIA	4	2	2	8
 GREECE	5	3	0	8
 PORTUGAL	3	1	1	5
 SPAIN	8	2	2	12
TOTAL	20	8	5	33

The Focus Groups gathered a total of 33 participants, the majority of whom are **school and education staff (61%)**, followed by **mental health experts**, which covered almost one-quarter of the participants (**24%**), and **others (15%)**.

The preponderance of education staff members among the participants drew much attention to the discussion on academic stressors, although many other aspects related to the personal and family life of the students were not ignored. Indeed, in some cases, the same teachers, coordinators, and principals have considerably expanded the discussion, bringing attention to factors other than those highlighted in the survey reports.

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### b) Topics addressed, insights and main findings

The topics discussed during the meeting held by the partners can be contained in three macro-categories:



**Students' stress** - its sources and impact on academic performance and personal lives.

**Strategies to cope with students' stress** - what good practices are implemented by schools to help students relieve their stress, what teachers and experts can do to help them, and what skills students need to manage their stress.



**Gamification for relieving stress** - how videogames and other gamification techniques can help students relieve stress. In this section, a summary of the results that emerged for each topic will be illustrated.

#### Students' stress

In sum, according to what emerged from the discussions with the participants, **three main factors** were identified as causing stress in secondary school students:

**1. Social acceptance:** students struggle to feel accepted by their peers and teachers. Having to cope with puberty and various issues coming from their personal and academic lives, they feel like they have to make several efforts to make friends and establish new relationships. When it comes to teachers, this issue intersects with school activities that see students exposed to the judgment of others, such as oral exams. Students often think the opinion that others have of them depends on the results of the tests.



## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### b) Topics addressed, insights and main findings

**2. Academic activities:** students feel overwhelmed by the study load and the various academic activities that see them exposed to the judgment of others, as explained above.

**3. Family:** Family issues play a significant role in the accumulation of stress in adolescents. These can concern the relationship with one's parents, problems of an economic nature, and much more. Often, these problems are related to school activities and social acceptance. Many parents place high expectations on the academic success of their children. When these expectations are not met, students face severe reprimands, which, in addition to accumulating stress, make them feel unappreciated.



In all the focus groups, it was reiterated that such causes are quite common in adolescent students. Above all, one of the causes most felt by students is exams. The moments of formal assessment are those that cause the most stress in students, being written, oral, or in any other form. Even if the stress perceived during exams varies according to the student's personality, that remains a moment of strong tension, as highlighted by one of the Portuguese participants:

*“And in relation to assessment, I don't happen to feel that it's only those [students] who care. I feel that, regardless of whether they care or not, the assessment moments are... I don't know, I'm not even sure if this is transmitted by the teachers, maybe not. But it is the perception they have of the moments of evaluation.”*

Similar opinions were registered in the focus groups delivered in Greece and Lithuania. Also in Spain participants confirmed the role of exams as a source of stress for students, although these seem to have less weight in their case. A major source of stress for Spanish students comes from “**poor emotional management**”, followed by issues related to “**identity and self-esteem**”, and the “**loss of beloved ones**”. Academic issues are reported to be among the least influential.

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### b) Topics addressed, insights and main findings

According to what can be deduced from this analysis, it seems that the Spanish situation highlights a greater severity of problems relating to social and family relations, rather than academic challenges. Not that these issues are ignored in the other countries. For instance, in Lithuania, participants of the focus group highlighted some other related issues, such as the (i) COVID-19 pandemic, (ii) gender identity, (iii) interpersonal relations, and (iv) there is a mismatch between virtual identities (e.g., on social media) and real identities.

“**Emotional management**” seems to be a cause of concern for the participants of all focus groups, who hint at the psychological and behavioral effects of this issue. These include:

- Isolation
- Absenteeism
- Undecidedness
- Mood swings
- Irritability
- Decline in academic performance

To tackle these issues, experts identified several actions, from more teacher training to the increased involvement of psychologists and social workers in schools. In addition to this, further practices have been proposed that involve a broader change in school teaching.

#### **Strategies to cope with students' stress**

One of the participants in the Portuguese focus group spoke in favor of adopting relaxation exercises to relieve student stress.

*“When I see them very confused I tell them to take a deep breath. And hold their breath. “Come on! Now, fill your lungs” and I don't know what. I also say that sometimes as a joke, also to make them distracted...”*

Similar activities were also discussed in Spain, where participants proposed conducting outdoor classes to promote greater relaxation. According to the Portuguese experts, relaxation exercises should be coupled with larger investments in psychologists to build prevention programs focusing on emotional self-regulation. Similar responses emerged in all the other focus groups, where the need for more psychological assistance in schools was highlighted. In the Greek case, the participants pointed out that a full-time

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### b) Topics addressed, insights and main findings

psychologist and a school counselor have been made available in their school to assist students at anytime. The same is true for Lithuania, where, according to the participants, many students prefer to turn to mental health experts only when their main support networks(i.e., family and friends) are lacking or absent.

Closer collaboration between parents and teachers was also presented as a good practice for stress relief. This contributes to the creation of a positive classroom environment and students tend to feel less stressed and happier.

Finally, the participants in all focus groups believe that **socio-emotional learning** (SEL) must play a central role in relieving students' stress. SEL is understood in several ways. In the case of Portugal, participants talked about "*emotional self-regulation*", while in Greece there was a discussion about "*communication skills*" to express one's emotions, needs, and ask for help. Those are all different aspects of a broader set of skills related to **socio-emotional intelligence**, which includes, according to the CASEL framework (CASEL, 2013), five categories: Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision Making.

In Lithuania, teachers, and psychologists also provided a list of long-term preventive measures they are adopting to reduce stress and develop socio-emotional skills. They are the following:

- Zippy's Friends
- Apple friends (<https://www.vaikolabui.lt/obuolio-draugai/>)
- National Socio-Emotional Education Olympiad "Dramblys" (a week-long organized every year with SEL exercises and lessons) (<https://dramblys.lt/>)
- Peaceful school (a six lessons cycle on promoting a positive educational environment)
- Let's overcome it together

#### Gamification for relieving stress

Most experts have been in favor of adopting gamification practices to relieve stress. In the case of the Greek focus group, the topic was dealt with extensively, such as to provide an adequate synthesis of what emerged also in the other working groups.

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### b) Topics addressed, insights and main findings

It has been agreed that gamification improves students' attention, engagement, and learning through the following:

- **Students' empowerment:** Gamification entails their cognition of students' achievements in various gaming elements, such as awards, badges, certificates, and trophies. This gives students confidence and encourages them to believe in themselves.
- **Meaning full learning tasks:** By making a subject easier to understand, gamification encourages students to pay attention to real-world problems.
- **Fun challenges:** Gamification allows teaching through captivating challenges, which encourage students' involvement. Collaborative challenges, group activities, and make the experience enticing for anyone.
- **Judgment-free:** Students experience the judgment of adults and their peers everyday, and this places a heavy burden on their shoulders, contributing greatly to their stress. Games are judgment-free and they allow everyone to engage them at their own pace.
- **Self-evaluation:** One of the most important elements of games in education is that they provide opportunities for self-evaluation. Students learn about their own strengths and weaknesses and how to improve them on their own. Reflective questions, such as "How did you feel in this situation?", "What did you learn?", "What can you do to improve next time?", could be of great help.

### c) Evaluation of the focus group and feedback received

The last point of each focus group was the evaluation of the event, which included an evaluation of the organization of the event and an assessment of its content. The organizers distributed a 13-sentence questionnaire to which participants assigned a number from 1 to 5 based on how closely the sentence matched their opinion. Most participants were very satisfied with the activity, assigning average scores above 4. Table below provides a synthesis of the average results of each focus group:

## 5. THE FOCUS GROUP FOR TEACHERS AND MENTAL HEALTH EXPERTS

### c) Evaluation of the focus group and feedback received

PARTNER COUNTRY	ORGANISATION OF THE EVENT	TOPICS ADDRESSED
 LITHUANIA	4.45	4.88
 GREECE	4.80	4.69
 PORTUGAL	4.88	4.90
 SPAIN	4.88	4.75
<b>TOTAL</b>	<b>20</b>	<b>8</b>

For more information on the evaluation of the focus group, you may consult the National Reports.

## 6. GUIDELINES FOR THE DEVELOPMENT OF THE “3D VIRTUAL WORLD LEARNING ENVIRONMENT” (3D VWLE)

The questionnaire and the focus groups were the occasion for project partners to collect useful information that can guide them in the development of the 3D Virtual World Learning Environment. This will guarantee that the platform will be as much responsive as possible to the preferences and the needs of the students, but also of the teachers. Moreover, the involvement within the focus groups of experts in the field of mental health was an added value that can guide partners through the creation of effective learning materials and game scenarios.

The learning materials should be connected to the stressors of the students. In fact, they should provide knowledge and skills on how to cope with their stressors in the school settings. According to what emerged from the transnational report's analysis, the stressors, in descending order of stress by category, for the students that were identified are:

- 1) Study issues: failing exams, lack of time to fulfil all the school activities, and oral exams;
- 2) Future perspectives: future academic perspective and finishing secondary education;
- 3) Relationship with classmates: personal reputation;
- 4) Relationship with teachers: teachers' expectations, intervention in class and lack of support from teachers;
- 5) Family issues: parental pressure to obtain good grades.

The learning materials that partners will identify and develop will aim at supporting students in dealing with these stressors by providing them with specific knowledge and skills. Starting from this, the scenarios that can be included within the platform can be linked to the following situations:

- Taking an oral test;
- Taking a standardized written test;
- Failing an exam;
- Having to think about the future;
- Ask for support from teachers;
- Dealing with their own reputation among peers.

## **6. GUIDELINES FOR THE DEVELOPMENT OF THE “3D VIRTUAL WORLD LEARNING ENVIRONMENT” (3D VWLE)**

About the platform functionalities, the ones that students appreciate the most are:

- Chat;
- Voice communication;
- Character development;
- Open-world map with multiple locations;
- Avatar personalization.

## 7. CONCLUSIONS

The present research attests to the extent to which the issue of stress among secondary school students is wide spread and felt in the EU or, at least, in the countries subject to this analysis, namely **Spain, Lithuania, Portugal, and Greece**. In order to provide as comprehensive a picture as possible, a wide range of tools was chosen to analyze the issue at each country's level. These tools are **desk research, a collection of good practices** concerning the topic at hand, a **survey analysis**, and a **series of focus groups** involving teachers and mental health experts.

The Desk Research conducted by partner organizations shows a general increase over time in stress among adolescents and, specifically, there are four main factors related to it:

- **Age:** Stress increases with increasing age
- **Gender:** girls tend to be more stressed than boys
- **Socio-economic conditions:** students from low-income families experience greater stress due to the problems they suffer at home
- **COVID-19-related anti-contagion measures:** quarantines have changed the lifestyle of young people and overturned the school structure, increasing the senses of uncertainty and fear.

Following this data, various national and international initiatives have been implemented to raise the awareness of young people, teachers, and parents on the topic of adolescent stress, as well as to mitigate the effects of stress on students. In general, all Desk Research has highlighted the importance that each country assigns to psychological support in schools, although in some circumstances it remains either not implemented or just partially implemented. In some cases, to make up for the shortage of psychologists and other specialists in schools, it was decided to promote more complementary projects and activities, such as educational programs for parents, curricular or extracurricular courses on SEL, and projects of educational inclusion for disadvantaged categories.

As regards the **Good Practices** presented by the partners, there is a great variety in the topics covered and the target groups. Two Good Practices proposed in this document, namely the one presented by the Portuguese partner and the one proposed by the Lithuanian partner, deal with the topic of socio-emotional learning (SEL). Although the Portuguese one is aimed mainly at teachers and students, the case presented by the Lithuanians also involves

## 7. CONCLUSIONS

parents with the aim of promoting an educational practice directed toward the whole community. The Good Practices proposed by the Greek and Spanish partners, on the other hand, are more directly concerned with the issue of mental health in schools, as they aim to make the school environment a safe and stimulating place for everyone. In particular, the Spanish practice, “Mental Health Literacy Programme” is very interesting, as it deals with 27 issues related to mental health, of which “stress and anxiety” is just one small part.

Finally, the results that emerged from the **Survey Reports** and the **Focus Groups** partly confirmed the data reported in the Desk Research, albeit with some rather significant differences. According to the answers given by the students in the questionnaires, their main sources of stress are their **academic activities** and, in particular, the exams and the excessive amount of homework and exercises assigned daily. This same data is confirmed by the Desk Research and the Focus Groups. However, the Survey Reports show that **COVID-19** and **Distance Learning** are not perceived as particularly relevant stressors. Indeed, several responses suggest that these have no impact on students’ stress levels. This is definitely in contrast with what was said by the specialists who took part in the Focus Groups and with the sources cited in the Desk Research. Nonetheless, the data from all the research confirmed a high incidence of stress in schools.

Thanks to the feedback received from all the people who participated in our research, the POSITIVE project will aim to support students in facing their daily challenges through our **3D Virtual World Learning Environment**, which will be built keeping in mind the needs and preferences of our main target audience. Such preferences and needs have been accounted for in this document, which provides a summary of the “virtual scenarios” that will be built to help students manage their stress and some of the “technical features” that students found more attractive.

# Virtual Scenarios

- |   |  |
|---|--|
| <b>1</b> taking oral test                   | <b>5</b> ask for support from teachers     |
| <b>2</b> taking a standardized written test | <b>6</b> dealing with their own reputation |
| <b>3</b> failing an exam                    | among peers                                |
| <b>4</b> having to think about the future   |  |

# Game Features

- 1 chat
- 2 voice communication
- 3 character development
- 4 open-world map with multiple locations
- 5 avatar personalization

Finally, we hope that this research has made a significant contribution to raising your awareness of the topic of adolescent stress. Undoubtedly, this document will guide the POSITIVE project team in building the next results. Infused with this new knowledge, we are confident that the results produced will hit the target and will allow many students to face the challenges of life with more serenity.

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