Research report in the project "Preventing post-COVID Social Exclusion Together"

Remote education and its effects on selected peripheral areas in Slovakia

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The project No. 22110213 (Strategic Grant) is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe.

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1 Introduction

This document is one of four research reports (from all the V4 partner countries). It is the output of the project titled "Preventing post-COVID Social Exclusion Together" (Strategic Grant No. 22110213). The project is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through Visegrad Grants from the International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe. It is implemented by a transnational Research Team composed of:

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The main goal of this project is to support social integration of young people, and their families, residing in rural areas and small towns in less developed regions of Central and Eastern Europe during periods of epidemic threats. This goal is to be achieved through the development of recommendations for civil society on how to successfully create Local Support Groups - Rapid Response Teams in the local environment. This project aims to help reduce the scale of educational and social inequalities in peripheral areas where the introduction of remote education had far more negative effects than in urbanized areas and metropolises.

Each of the project partners developed a separate report based on completed student survey in the country they represent. The preparation of the documents summarizing the student survey data is a necessary stage for the development of further recommendations in this project.

This document covers the situation in Slovakia.

1.1 Purpose of the research and research issues

Although research has been conducted on the impact of the COVID-19 pandemic on education and social inclusion of young people, there are very few studies focusing on youth from rural areas, small towns, and less developed regions of the Visegrad Group countries.

Therefore, between June and September of 2021, as part of this project, an analysis was conducted on the effect of the pandemic on teachers, young people, and their families from different groups and backgrounds living in the four Visegrad Group countries using the desk research technique. One of the purposes of the qualitative research was to identify in each country (Poland, the Czech Republic, Slovakia, and Hungary) one administrative region that can be classified as the country's "periphery". Four regions were identified:

1) Podkarpackie voivodeship (in Polish – *województwo*), one of 16 administrative regions in Poland
2) Eastern Slovakia consisting of Prešov and Košice self-governing regions (in Slovak— *kraj*)
3) Ústecký region (in Czech— *kraj*), and
4) The Northern Great Plain region (in Hungarian - *régió*).

The main portion of the research was carried out in all four countries using a survey method (the technique of the auditorium survey). The study aimed to provide answers to the following research problems:

1) Has remote education (2020-2021) increased inequalities among students / students?
2) What problems had students / students from periphery areas faced?

The research results should help to answer the following questions:

3) What should be done to prevent educational and social exclusion of young students during a pandemic?
4) How to support students without IT equipment during periods of remote education?

The research provided insight into the students' experiences during the COVID-19 pandemic (in 2020 and 2021) in the areas of:

- level of technical availability of equipment during remote education,
- assessment of the quality of classes during remote education,
- positive and negative features of this form of education,
- mental health problems,
- social support,
- educational aspirations and willingness to stay in stationary school learning.

The structure of this document is determined by the questions and areas listed above.

The first chapter describes the methodology of the completed research including: the research technique used, the research tool, the sample selection, and the method of research organization.

The second chapter characterizes the studied community. This was done through the prism of socio-demographic variables such as inter alia: gender, age, place of residence, and number of siblings.

The third chapter provides information on the psychosocial condition of students. Issues such as psychological well-being, distress experienced by students during distance learning, life satisfaction and social support were taken into account.

Chapter four describes the process of educating students in a peripheral area during the COVID-19 pandemic. References are made here to the technical possibilities available to students in the course of distance education, evaluation of distance education, etc. The chapter also provides information on the educational aspirations of students.

The research report ends with a summary, conclusions, and recommendations.

1.2 Methodology of the research

The research was carried out in four Visegrad countries using a survey method (the technique of an auditorium survey). It allowed for the questionnaire to be self-completed in a school room. The time of completion should have not exceeded 40 to 45 minutes (1 school lesson). In each country's "peripheral" region, smaller units of sub-regions were selected in the desk research reports as the areas for the survey research. In Slovakia the areas chosen for survey research consisted of Presov region. Next, the transnational team from all four Visegrad countries developed the questionnaire comprised of 31 items. The team also developed the common research methodology with research guidelines for the chosen research contractors (the contractors could be a person or a company in each country).

The research sample were students (ISCED'97 Level 2) of public schools located in the chosen periphery sub-regions (no less than N = 300 in each country). Other criteria's were: students' grade and their place of residence: in rural areas / settlements of up to 5,000 inhabitants (min. N = 150) and urban areas / more than 5,000, but less than 20,000 inhabitants (min. N = 150).

Before the research begun, a positive opinion of the Ethics Committees was obtained. In Slovakia it was "Ethics Committee of the University of Prešov in Prešov" č. 7/2021.

Purposeful selection of the sample and data collection was realized by the research contractor. In Slovakia the contractors were: Dr. Šepeľáková and Dr. Ferencová. The schools were chosen on the basis of the available selection and contacted by Dr. Šepeľáková and Dr. Ferencová.

2 Characteristics of the sample

2.1 Gender

A total of 300 students participated in the study, as shown in Figure 1. The sample was gender balanced, with a total of 153 boys and 147 girls.

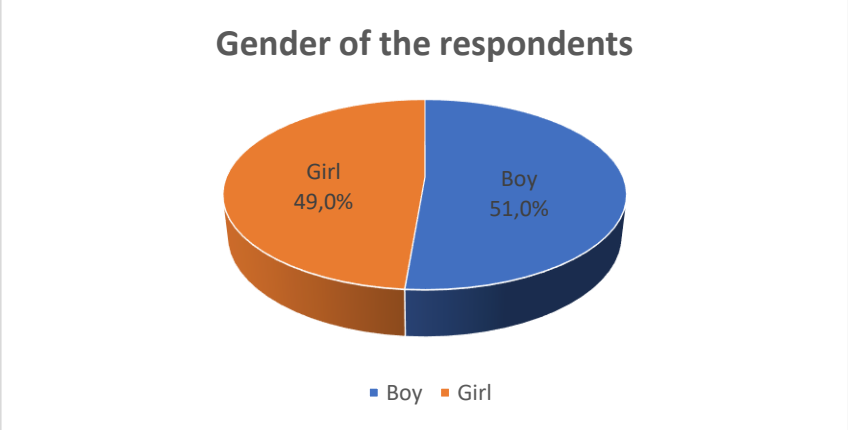

Figure 1. Gender of the respondents (PCSET 2021)

2.2 Age

As we can see in Table 1, the age of the respondents ranged from 13 to 15 years of age, and the average age was 13,58. This means that 13-year-old students were the most common respondents - in total 164. There were also 97 14-year-old and 39 15-year-old respondents.

Table 1. Basic descriptive statistics on the age of the respondents

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Age	300	13,58	13,00	13,00	15,00	0,71	0,05

Source: PCSET 2021

2.3 Number of siblings

Out of 300 students, most students (n = 260) reported having at least one or more siblings. 13,0 % of respondents (n = 40) stated that they did not have any siblings (Figure 2).

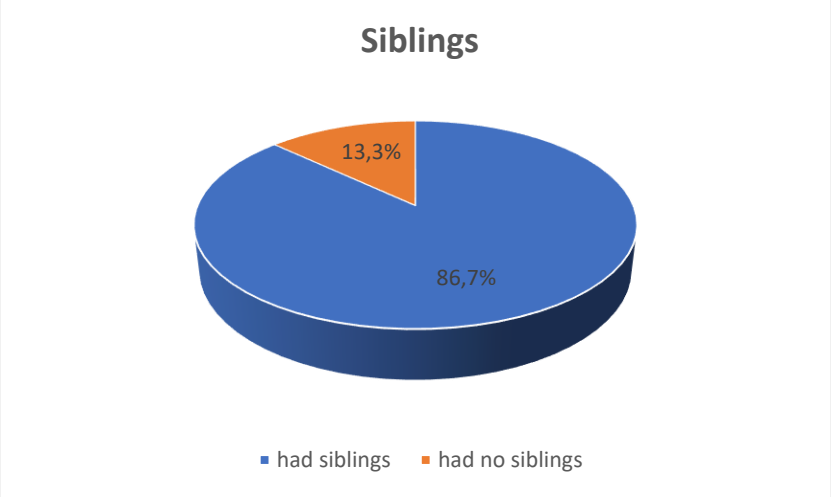

Figure 2. Siblings (PCSET 2021)

If we take a closer look at the variance in the number of siblings, most students have one sibling, a total of 133 students. 77 students have two siblings, 29 students have three siblings, and 21 students have four or more siblings (Figure 3). Throughout history, the institution of a family has undergone many changes. According to the Statistical Office of the Slovak Republic (2021) a reduction in family size is currently typical - fewer children and a decline in multigenerational households.

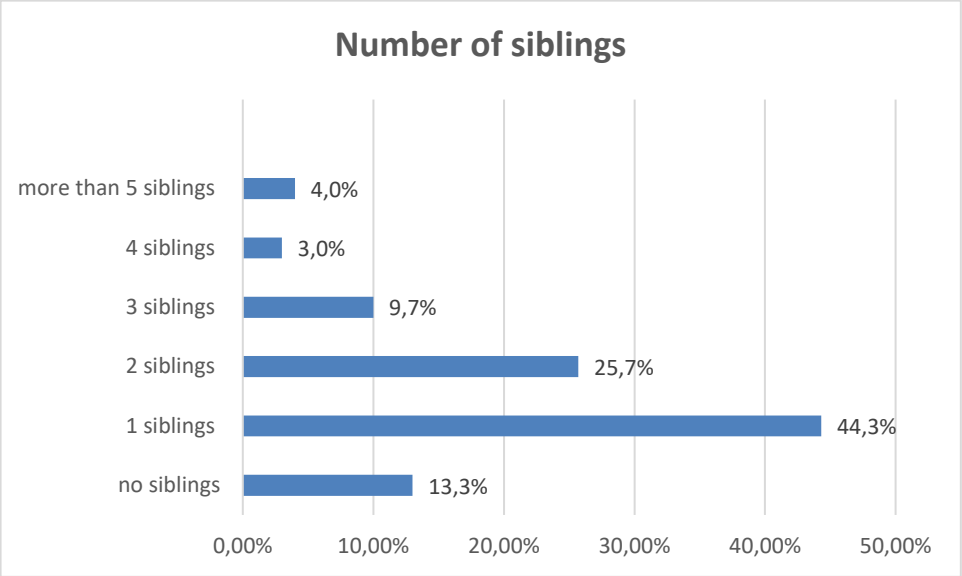

Figure 3. Number of siblings (PCSET 2021)

2.4 Place of residence

The research was carried out in the Prešov region, specifically in the districts of Stará Ľubovňa and Svidník, which are among the least developed districts. Out of the total number of 300 students, 174 students live in a municipality / city with less than 5,000 inhabitants. 126 students live in a municipality / city with more than 5,000 inhabitants, but less than 20,000 inhabitants (Figure 4).

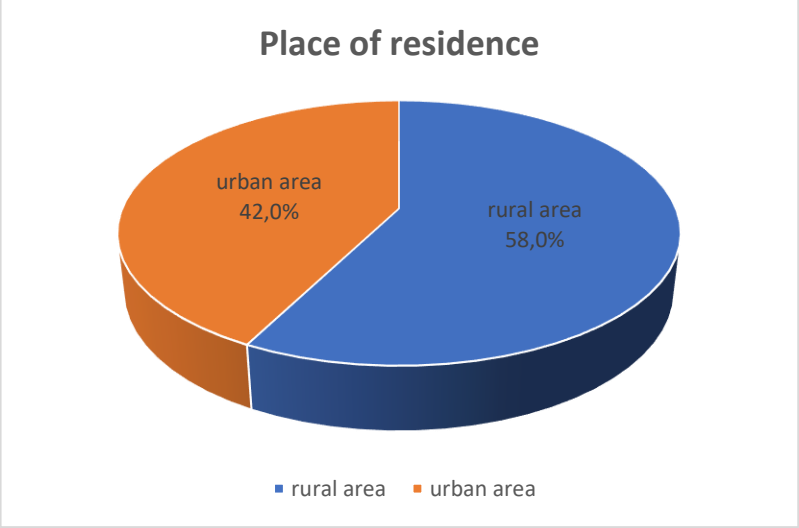

Figure 4. Place of residence (rural area, urban area) (PCSET 2021)

2.5 Socio-economic status (parental education, professional status)

If we look at Figure 5, we will see that parents who are graduates of ISCED 3A upper secondary education made up the largest percentage of parents (Average 38.5 %). The second place, regarding the father's education, includes education below ISCED 3 and ISCED 3C (17.3 %) and only a slightly lower percentage (16.7 %) the fathers had education above ISCED 3 (e.g. university education). The mothers' education, in contrast to the fathers' education in the second and third positions, are the opposite. Thus, a higher percentage (24,0 %) of mothers have education above ISCED 3 (e.g. university education) and 14.3 % of mothers have education below ISCED 3 and ISCED 3C. What is striking, however, is that more than 25,0 % of children could not define their parents' education. We based this classification on the International Standard Classification of Education (UNESCO Institute for Statistics 2011).

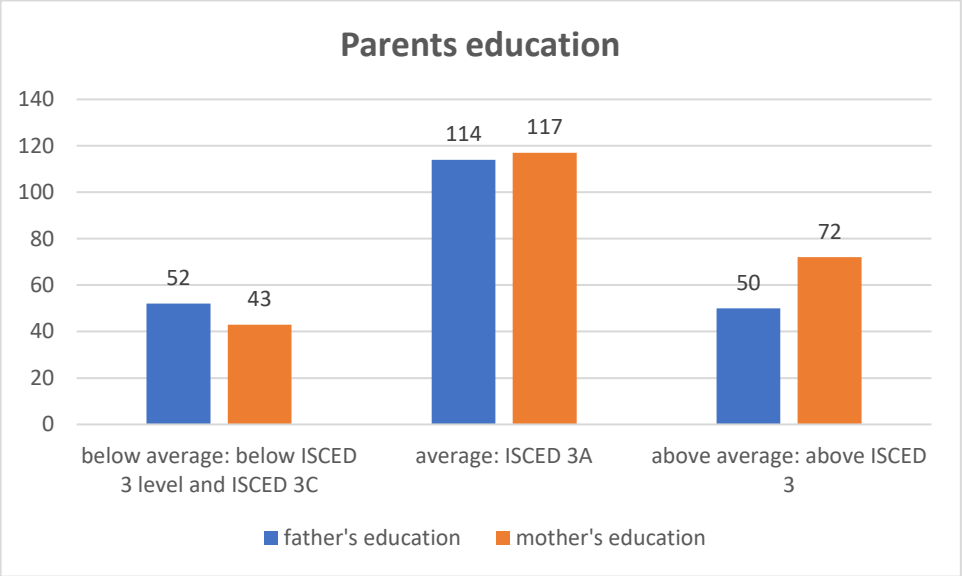

Figure 5. Education of parents (PCSET 2021)

Taking a closer look at Table 2, we can see the percentage distribution of individual parents' professions. As with the previous item no. 29, discussed above, students also did not know the answer to question no. 30 to a large extent (average 31,0 %), which was to clearly define the profession of their parents. For mothers, the professions of a specialist with a higher education (e.g. a teacher) and a lower-level administrative worker (e.g. a secretary) are the most represented in the first places. The father is dominated by a qualified worker and the owner of a private company in the sample of professions.

Table 2. Parent's or guardian's jobs

	Mother		Father	
	Number	Percent	Number	Percent
Director or the president of the company or a senior government official or parliamentarian	5	1,7 %	5	1,7 %

	Mother		Father	
	Number	Percent	Number	Percent
A specialist with higher education or a freelance profession (for example researcher, lecturer, teacher, doctor, lawyer, writer)	53	17,7 %	21	7,0 %
Technician and specialized administrative and office worker, White collar worker	11	3,7 %	32	10,7 %
Low-level white-collar worker (for example secretary, cashier, clerk, telephone operator)	29	9,7 %	16	5,3 %
Private company owner	18	6,0 %	41	13,7 %
Trade and service worker	30	10,0 %	17	5,7 %
Unskilled worker	8	2,7 %	4	1,3 %
Skilled worker	29	9,7 %	43	14,3 %
Farmer	0	0,0 %	4	1,3 %
Unemployed	23	7,7 %	8	2,7 %
Pensioner (on rent or retirement benefits)	2	0,7 %	3	1,0 %
It's hard to say/ I don't know	85	28,3 %	97	32,3 %

Source: PCSET 2021

2.6 Property status

In the next section, we will look at the property status in our sample. Table 3 shows us the state of tangible assets and the possibilities of the family. As we can see from the figures, the standard of living of most households is very good. A car and computer ownership can be considered the indicators of a good standard of living and have the highest percentage score. On the other hand, the item identified by the least respondents concerns the availability of pocket money, the participation in recreational activities, and also the possibility to go on vacation.

Table 3. Which of the following statements do you think best describes the material sufficiency of your household?

	Number	Percent
My family can afford one week of vacation a year (away from home)	122	40,7 %
My family can afford to eat meat, chicken or fish every other day	205	68,3 %
My family has no heating problems	210	70,0 %
There is a car in my family	254	84,7 %
There is a computer or a laptop in my family	251	83,7 %
Used furniture can be replaced with new one	171	57,0 %

	Number	Percent
We can replace used clothes with new ones	202	67,3 %
I have at least two pairs of appropriate size shoes (including a pair for winter)	222	74,0 %
I receive pocket money every week	102	34,0 %
I regularly participate in recreational activities (such as sports, cinema or concert)	118	39,3 %
My family meets friends or relatives at least once a month (for a drink or a meal)	188	62,7 %

Source: PCSET 2021

Item no. 26 was focused on household money management. As Table 4 shows, more than half of the respondents state that they are living relatively well, 33.7% are average and 4% are above standard.

Given the location of the research, which is the Prešov region, which is one of the less efficient regions of Slovakia in terms of GDP generation, the results are surprising. As stated by the Statistical Office of the Slovak Republic (202), the average monthly wage in the Prešov region in 2020 reached 1 091 euros and was the lowest in Slovakia.

From our point of view, the answers could be effected by the self-perception factor of students, who at this age (13-15 years) could often be ashamed of their family's poverty. Therefore, we assume that not everyone would answer honestly, even if it was an anonymous questionnaire. In the context of self-presentation and self-evaluation, the adolescent's judgment and perception is often distorted, so it is possible that they did not want to admit that they are not doing well, and that they did not even have the basic needs. Marking such an answer in the questionnaire would mean a realistic and unbiased look into their quality of life.

Table 4. Which of the following statements do you think best describes the way money is managed in your home?

	Number	Percent
We live very modestly, with not even enough money for our basic needs	5	1,7 %
We live modestly, we have to be very economical on a daily basis	16	5,5 %
We live averagely, we have enough money every day, but we have to save for larger purchases	101	34,6 %
We live well, with enough money for not to have to save much	158	54,1 %
We live very well, compared to others, we can afford luxury	12	4,1 %
Overall	292	100

Source: PCSET 2021

For item no. 31, students had to indicate which of the given objects / equipment they have at home. As we can see in Table 5, most students ranked internet access and a laptop in the first place. The items that occurred the least were scanners and a desktop computer.

Table 5. Which of the following items are in your home?

	Number	Percent
Scanner	130	43,3 %
Printer	225	75,0 %
Stationary computer (PC)	177	59,0 %
Laptop or notebook	239	79,7 %
Tablet	196	65,3 %
Smartphone	273	91,0 %
Permanent access to the Internet	263	87,7 %
Study desk	214	71,3 %
Own study room	194	64,7 %

Source: PCSET 2021

2.7 School achievements

For item no. 28, we were interested in how students perceive their success at school. Most students (n = 161) consider their achievements to be average. In the second most common response (n = 69), the perception of students is more positive and students perceive themselves as above average. Only 28 students perceive their performance as the best in the class. On the other hand, up to 9 students perceive their results as poor (Figure 6). In essence, this is a normal probability distribution (Gaussian curve).

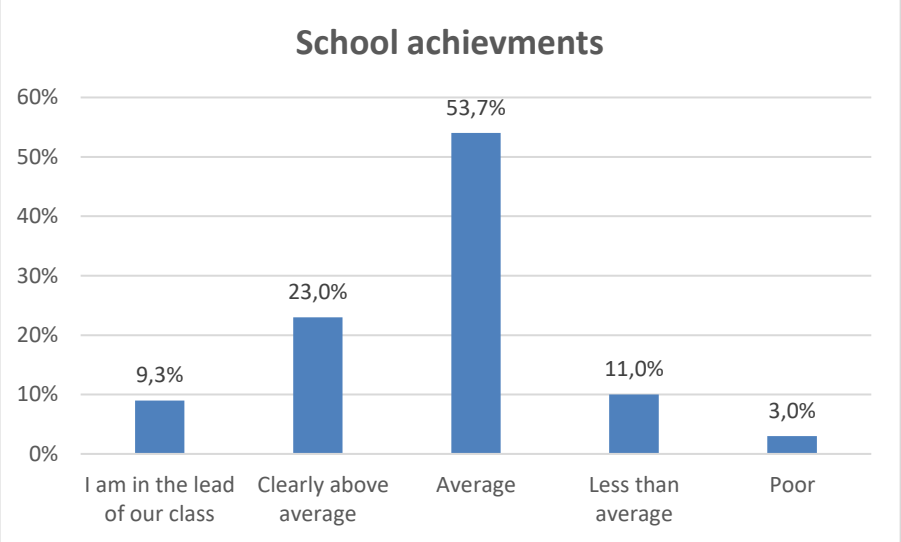

Figure 6. School achievements (PCSET 2021)

2.8 Number of books

When we look at the responses to the number of books in the household, the distribution of answers resembles the Gaussian curve. Most students (n = 124) stated that they have between 26 and 100 books at home. On the other hand, the fewest responses were the first option - 33 students have up to 10 books at home, and 18 students stated that they have more than 500 books at home (Figure 7).

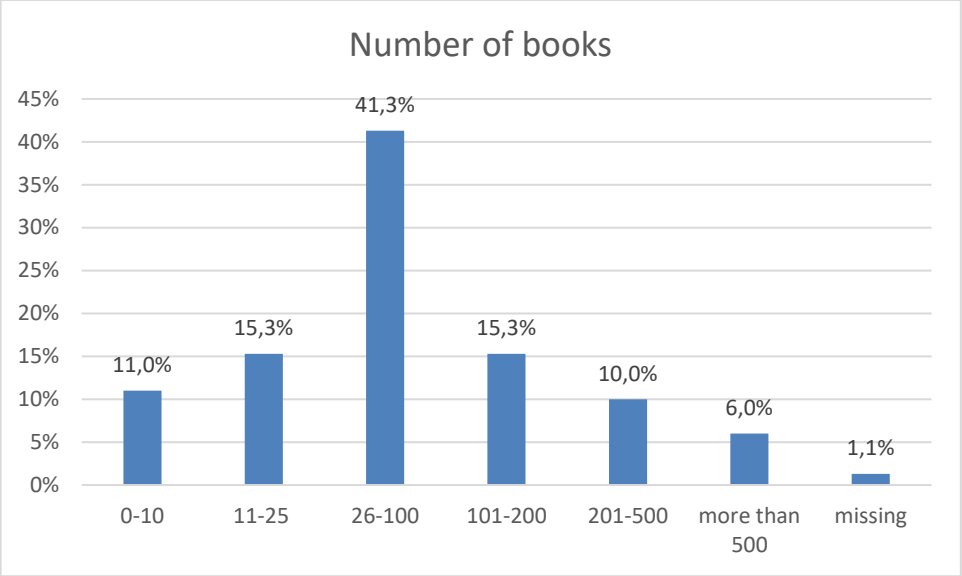

Figure 7. Number of books (PCSET 2021)

2.9 Summary of the section

The research sample consisted of 300 students with an average age of 13,58. In terms of gender, the sample was balanced, with most students perceive themselves average in terms of their school achievements.

The family background could be described, based on the students' statements, as average with standard household equipment, which reflects the cultural and economic parameters of the Prešov region and selected districts. We did not find any surprising results in the analysis of the statements.

3 Psychosocial condition and Imponderabilia

3.1 Psychological well-being

The World Health Organisation- Five Well-Being Index (WHO-5) is a short self-reported measure of current mental well-being. The instrument measures well-being through five items where respondents have to evaluate the statements on a Likert scale from 0 to 5. While scales measuring health-related quality of life are conventionally translated to a percentage scale from 0 (absent) to 100 (maximal), it is recommended to multiply the raw score by 4 (Topp et al., 2015, p. 168). The instrument can be used for screening depression too: following the WHO-5 recommendation, the cut-off score is ≤ 50. Therefore, reaching 50 points or less may indicate depression.

Table 6. Basic descriptive statistics on the well-being of the respondents

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Well-being	299	57,0	56,0	0,0	100,0	22,4	0,39

Source: PCSET 2021

As Table 6 shows, the value of well-being varies between 0 and 100. The average well-being score is 57 points, which is slightly above the cut-off point. When creating groups based on the cut-off point, we can see that approximately two-fifths of the sample belongs to those reaching fewer points than the cut-off value. This means that 36,8 % of the students have depressive symptoms (Figure 8).

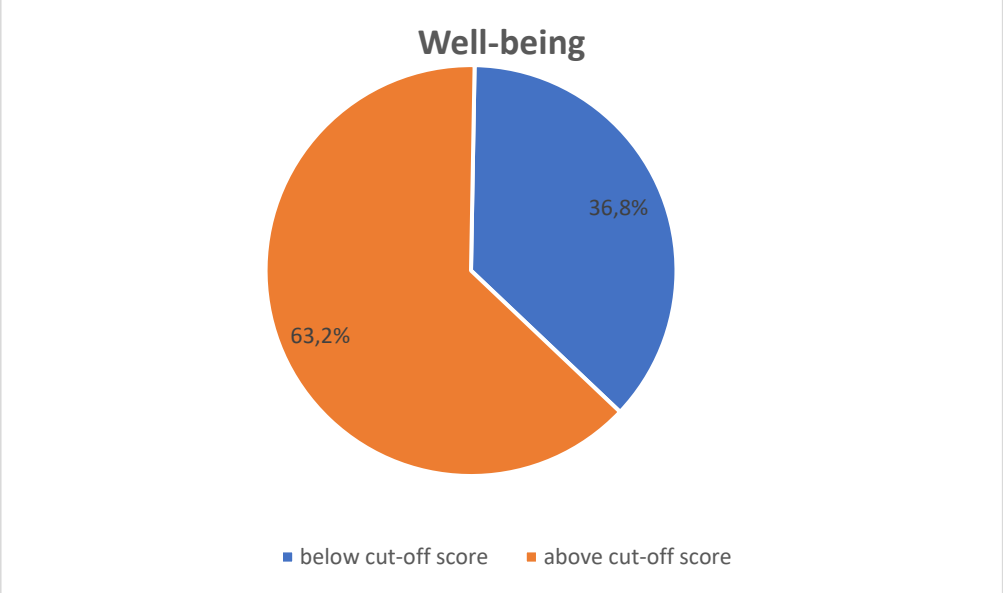

Figure 8. The proportion of students above and below the cut-off score (PCSET 2021)

3.2 Perceived stress

The Perceived Stress Scale (PSS) was used to determine how the participant "perceived" stress. The original survey asks 14 questions about stressful situations and helps determine what stress the participant experiences and how stressful he or she feels their life to be.

Higher scores indicate higher levels of stress. In our study, we used eight questions, of which three are reversed items. Therefore, we had the following questions:

- How often did you feel rushed or hurried?
- How often did you have enough time to do what you wanted? (R)
- How often did you feel worried about being too busy?
- How often did you feel nervous?
- How often did you feel angry?
- How often did you feel happy? (R)
- How often did you get enough sleep? (R)
- How often did you have fights with friends?

The modified questionnaire is proved to be reliable based on the value of Cronbach's alpha (0,766)[1]. Table 7 introduces the item-total statistics of the items.

Table 7. Item-total statistics of the modified perceived stress scale

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
How often did you feel rushed or hurried?	11,54	22,80	0,463	0,717
How often did you have enough time to do what you wanted?	12,58	23,17	0,398	0,729
How often did you feel worried about being too busy?	12,12	21,69	0,500	0,708
How often did you feel nervous?	11,74	19,95	0,662	0,674
How often did you feel angry?	11,83	21,25	0,492	0,710
How often did you feel happy?	12,71	23,69	0,376	0,732
How often did you get enough sleep?	12,39	22,51	0,383	0,732
How often did you have fights with friends?	12,76	23,76	0,278	0,751

Source: PCSET 2021

Based on the original questionnaire, we created categories based on peer evaluation, which have resulted in three dimensions: time-related stress, mental health and physical health. The characteristics of these dimensions are presented in Table 8.

[1] a questionnaire is considered reliable if the value of Cronbach's alpha is above 0,6.

Table 8. Basic descriptive statistics on the dimensions of perceived stress of the respondents

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
time-related stress	298	5,7	6	0	11	2,28	0,40
mental health	298	5,6	5	0	12	2,473	0,44
physical health	298	2,8	3	0	8	1,712	0,61
overall stress	298	14,1	13	2	27	5,186	0,36

Source: PCSET 2021

The average level of time-related stress was found to be close to the midpoint of the subscale. Therefore, it indicates an average level of time-related burden shouldered by the students. The same was the case for the observed mean scale score indicating mental health. Regarding physical health, we observed a mean scale score below the desired level. Overall, the total score of the questionnaire indicates an average level of stress in the given sample.

Also, based on the overall stress level, we created categories for the level of stress, including the following:

- Low Stress (scores 0 - 10)
- Moderate Stress (scores 11 - 21)
- High Stress (scores 22- 32)

The distribution of the groups can be seen in Figure 9. Almost two-thirds of the students have a moderate stress level. The proportion of students reporting low stress level is relatively high; however, we have to emphasise that almost one-tenth of the students report a high level of stress which may be related to the decreased level of well-being.

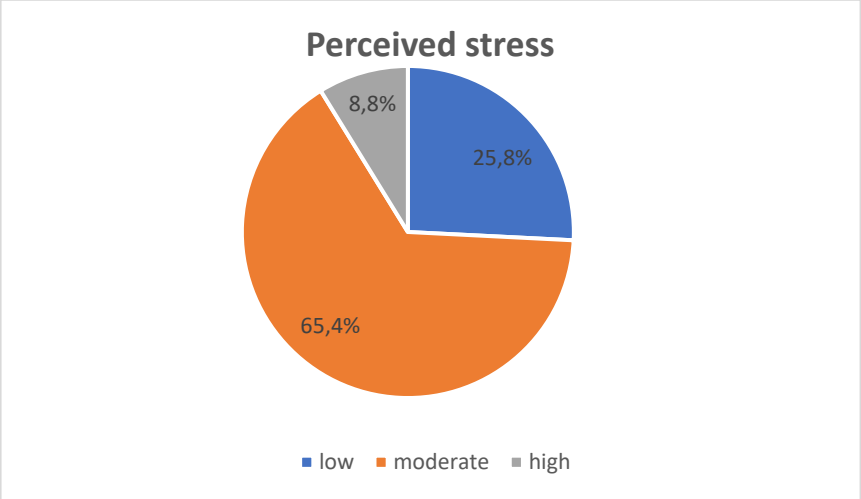

Figure 9. The proportion of students in the three groups of stress level (PCSET 2021)

3.3 Life satisfaction

To measure the life satisfaction of students, we asked them to evaluate their life so far, whether they are rather satisfied or dissatisfied with their life overall. Students had to choose one statement out of five (definitely dissatisfied / rather dissatisfied / rather pleased / definitely pleased, / I don't know, it's hard to judge).

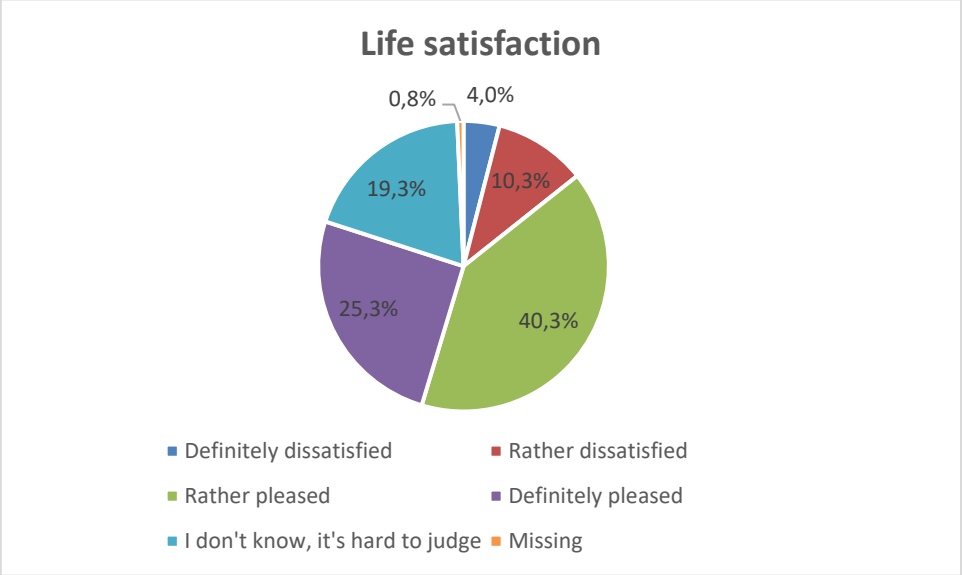

Figure 10. The proportion of students according to life satisfaction (PCSET 2021)

Figure 10 shows that most students (65,6 %) are definitely pleased or rather pleased with their lives, while approximately 14,3 % are definitely dissatisfied or rather dissatisfied. However, approximately 19,3 % of the students reported that they could not evaluate the level of satisfaction with their lives.

3.4 Social support

First, we used the Short scale of Youth's social support assessment to measure social support. SSYSS is an 18-item questionnaire to measure the impact of parental (5 items), peer (8 items), and teacher (5 items) support on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). The maximum total score is 25 points for the parental and teacher subscales and 40 points for the peer subscale. The instrument covers the most important environments where a young person might live. The questionnaire is a widely accepted, accurate, and valid measure for investigating youth social support (Pluta et al., 2020). The reliability of the questionnaire was appropriate in our study too (parental support: Cronbach's alpha = 0,755; peer support: Cronbach's alpha = 0,857; teacher support: Cronbach's alpha = 0,864; overall questionnaire: Cronbach's alpha = 0,865). The results of the subscales are introduced in the following table.

Table 9. Social support of students

Support	N	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Parental	300	22,627	24	8	25	2,842	0,12
Peer	300	28,907	29	12	40	6,27	0,21
Teacher	300	16,813	17	5	25	4,637	0,27
Overall support	300	68,347	70	40	90	10,36	0,15

Source: PCSET 2021

The results indicate relatively decent levels of social support. Especially the level of parental support seems to be high as the mean is just slightly below the maximum of total subscale. The high level of perceived teachers' support refers to the high-level engagement of teachers in helping their students in distance education. The level of perceived support received by peers also indicates a high level of collaboration with classmates and other peers.

We also asked the students to mark who helped them with problems during distance education. Figure 11 shows that most support was received from the parents and classmates. Also, a significant proportion of students noted that siblings supported them and/or they used Internet as a problem-solving technique. Teachers of individual subjects and classmates ended up in the fifth and sixth places, which can be surprising in the light of the results of the SSYSS. Students may have a closer relationship with their parents, siblings and classmates, and it was easier to ask them for help. Receiving support from other family members was reported by approximately 12,7 % of the students. The support received from tutors and school psychologists was quite rare, maybe due to the fact that tutors are not available for everyone and school psychologists are usually not so close to general schoolwork. We also have to note that 12,3 % of students reported not experiencing any problems, and approximately 6,3 % reported not having any help even if needed.

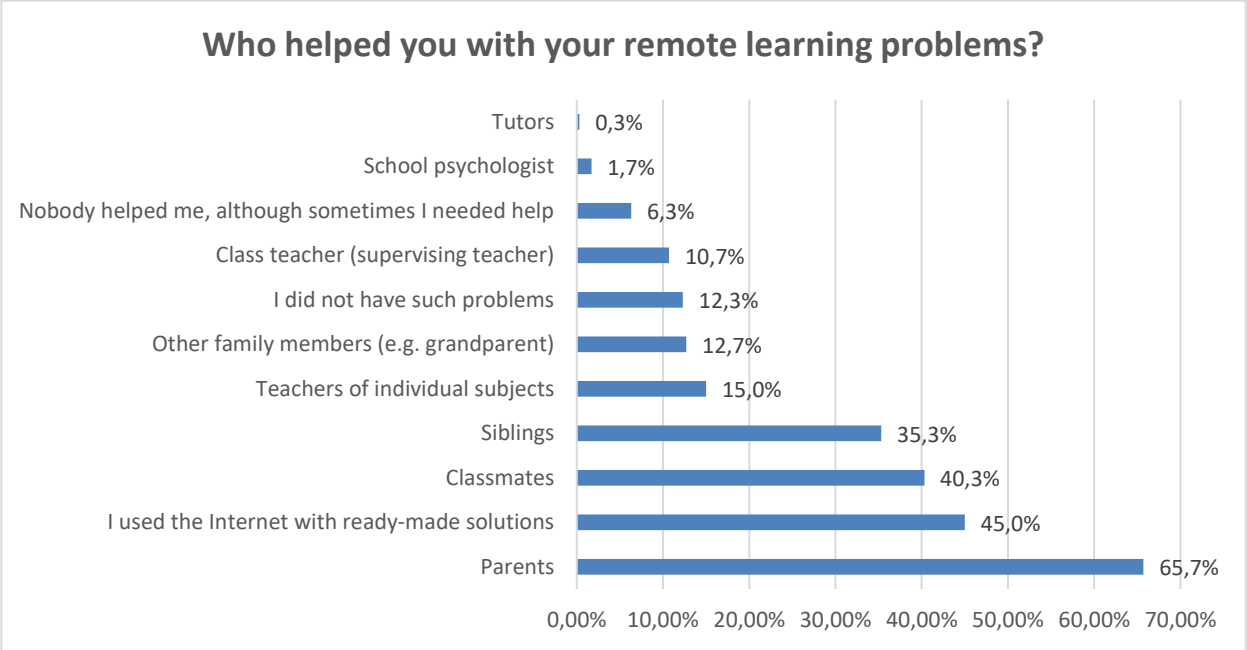

Figure 11. People and tools supporting students in dealing with problems during distance education (PCSET 2021)

3.5 Summary of the section

Our results show that the overall well-being of the children is below the desired level as approximately 40,0 % of the students have depressive symptoms based on the data of the WBI. The level of perceived stress seems to be average; however, the level of mental and physical health is below the desired level. This can also be seen in the high proportion of students perceiving moderate stress and those with a high level of stress. The results

concerning life satisfaction are somehow conflicting as most students are at least rather satisfied with their lives.

Concerning social support, we can conclude that the results of SSYSS indicate that students generally perceived a high level of support from their parents, teachers and classmates. When measuring the support received from the different actors during distance education, we can see that the most important ones who helped the students came from the students' close environment, such as their parents, classmates and siblings. The results suggest that the high level of perceived support based on the SSYSS refers to general and rather emotional support; however, when asking for physical help (e.g. support in doing homework), teachers' supportive role significantly decreases.

4 Students from peripheral areas in the course of distance education

4.1 Technical conditions for online education

As we can see in Figure 12, the majority of students (n = 194) were allowed to fully participate in online teaching with the technical equipment available in their homes. 21 students stated that they did not have the necessary technical equipment, which we can perceive, especially in the east of Slovakia, as a decisive factor in the non-participation of students in distance education.

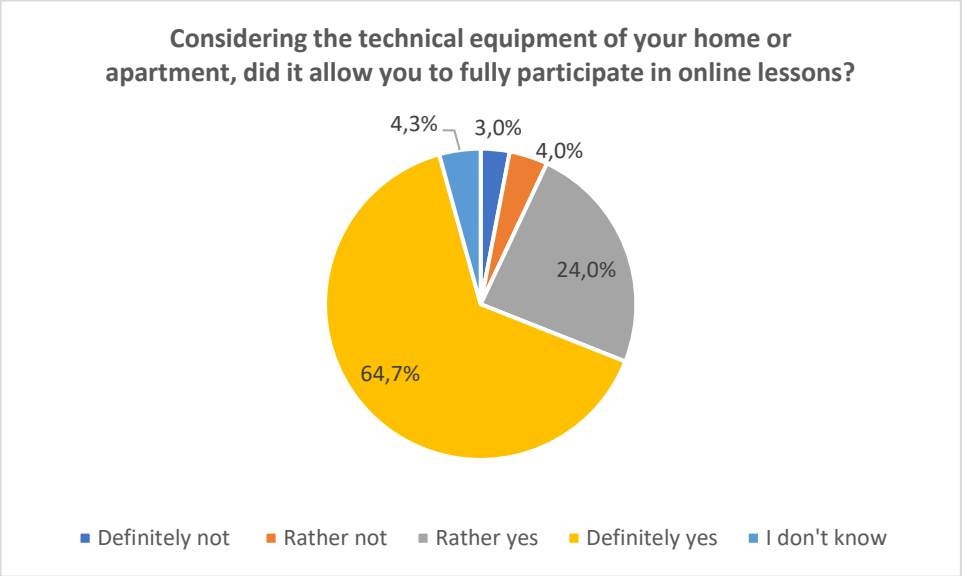

Figure 12. Technological readiness for online education in Slovakian homes (PCSET 2021)

It is no surprise that the most common devices that students used during online lessons were a laptop and a smartphone. These devices were also listed under item no. 31, in which we asked what equipment they have at home. Interestingly, only 17 students used tablets most often (Figure 13).

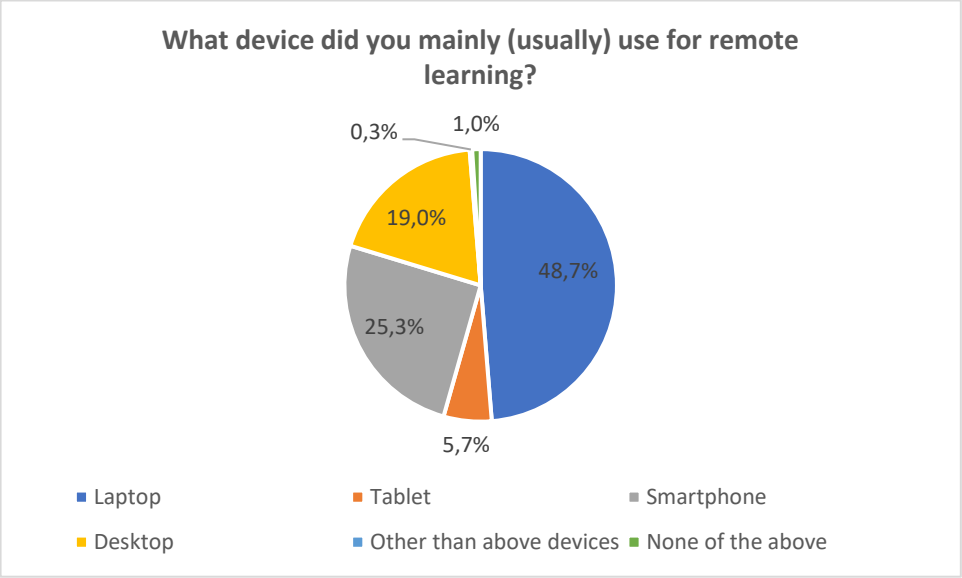

Figure 13. Digital devices used during emergency remote teaching (PCSET 2021)

For item 3, we were interested in who owns the devices that the students used for distance education. We were not surprised that 65,7 % of the equipment was personally owned by the student. Nowadays, it is standard to own a smartphone and a laptop. The surprising finding is that only 1 student used equipment borrowed from the school (Figure 14). This makes it possible to expect reserves in terms of securing information and communication technologies in schools.

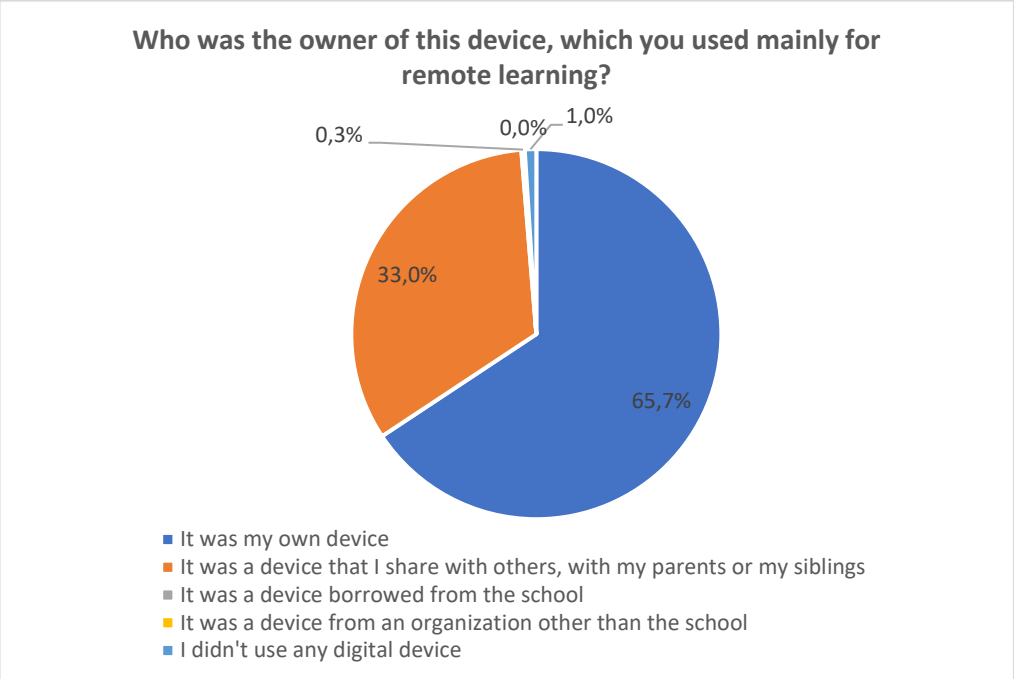

Figure 14. Equipment owner (PCSET 2021)

For item no. 4, we were interested in where the students learned most frequently. Not surprisingly, most students (n = 189) implemented distance learning in their own room. The second most common was a room shared with the siblings (n = 59). Of course, several students (n = 42) used a common family room, or a different space in the house / apartment (n = 10) (Figure 15).

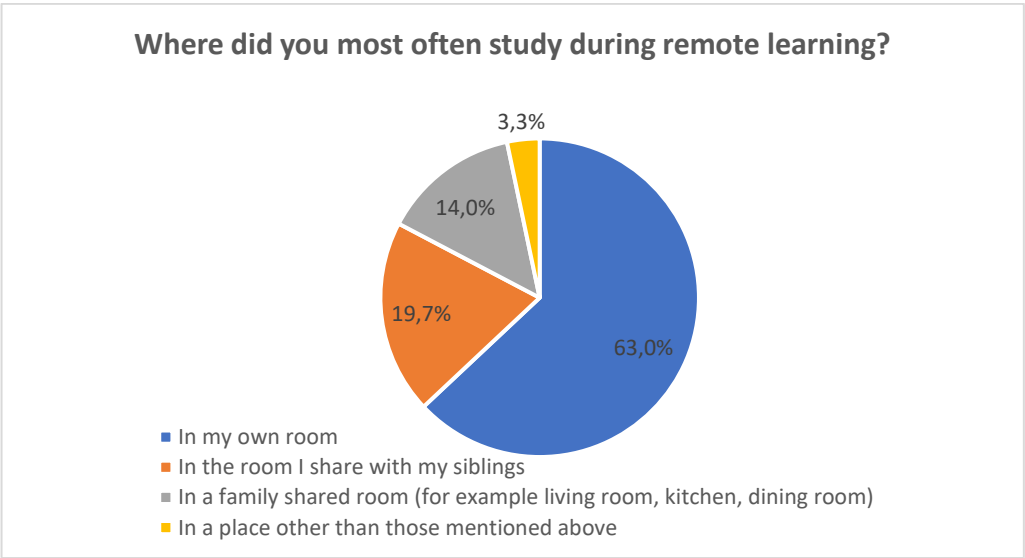

Figure 15. Place where students usually learned during emergency remote teaching (PCSET 2021)

4.2 Online education assessment

The quality of online lessons is a crucial area that interests us in research. As we can see in Figure 16, most students (n = 199) rated distance learning as much lower or slightly lower compared to traditional school learning. It is undisputed to note that schools, principals, teachers, students and parents were not prepared for distance learning as part of the epidemiological measures and the associated closure of schools. In the context of undergraduate teacher training, due attention has not yet been paid to the implementation of the distance form of teaching. The curtailment of the teacher's digital competences, the lack of support from the Ministry of Education or the insufficient equipment of schools have all impacted the quality of online lessons. As we can see, only 90 out of 289 students rated online lessons at the same, higher or much higher level (Figure 16).

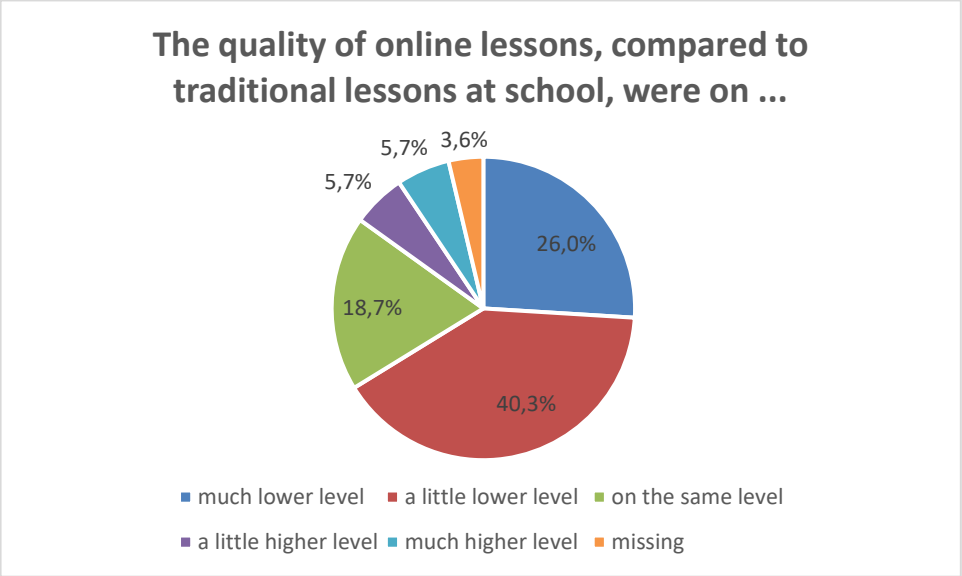

Figure 16. The quality of online lessons (PCSET 2021)

Figure 17 shows the diversity of views on distance learning. This item contained 8 statements in which students expressed their degree of agreement / disagreement. Overall, it seems that nearly half of students (47,7 %) were able to learn, even though they had other, more interesting things to do. Students in most cases (65,0 %) also knew how to complete the assigned tasks on time, were able to concentrate (42,0 %), took an active part in the lessons (74,0 %), do not feel that they have to catch up on the curriculum (40,0 %) and are not afraid of failure up return to traditional education (58,0 %). What is surprising, however, is that most students (50,0 %) are concerned about teachers' demands upon returning to traditional education, and also 34,0 % of the students do not understand the information presented.

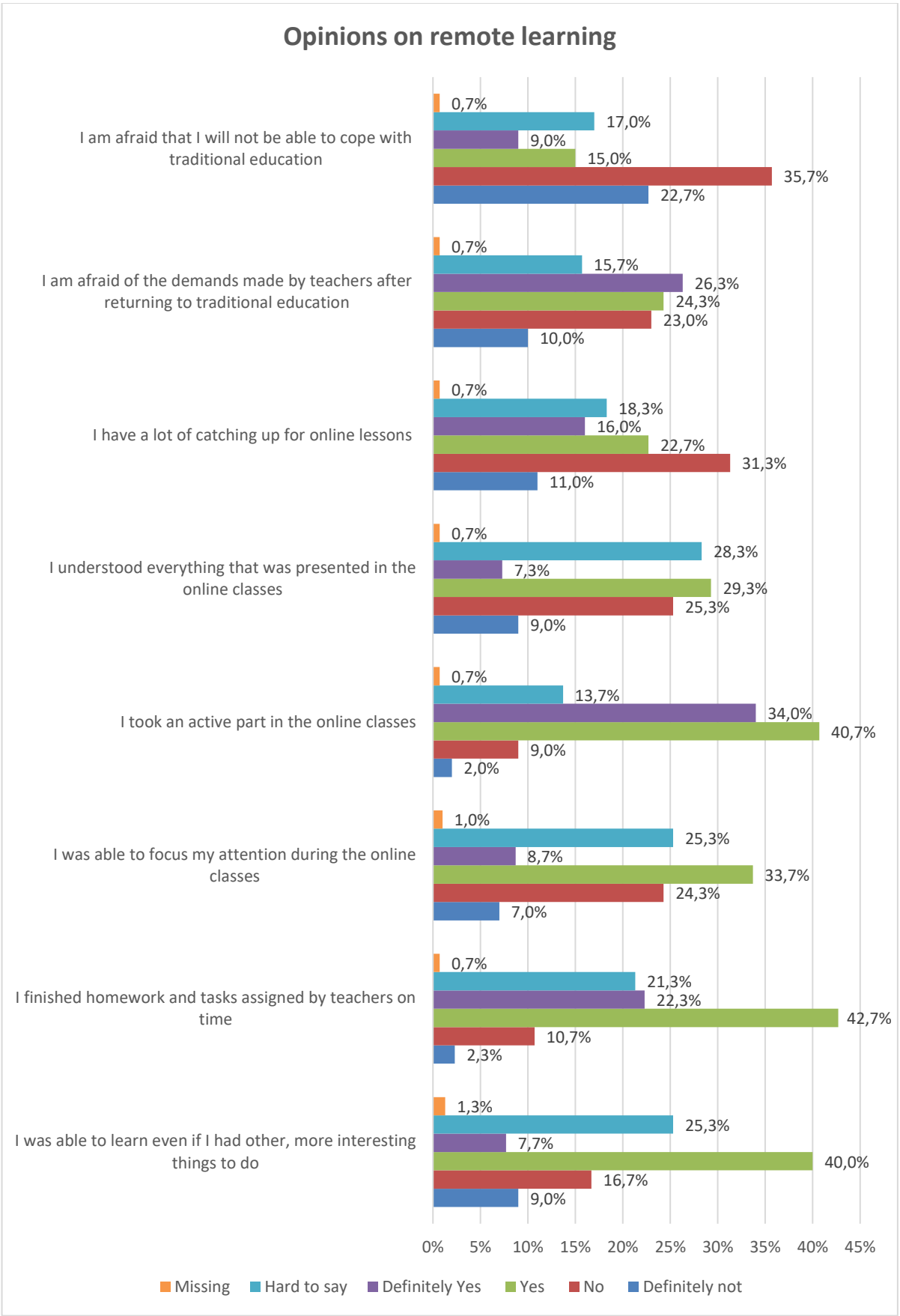

Figure 17. Student's opinion about emergency remote teaching I (PCSET 2021)

When we look at the evaluation of home education, we see that while consent prevails in the first 2 statements, disagreement prevails in the remaining two. In most cases (71,0 %), the students wanted to learn as much as possible, distance learning was interesting for them (61,0 %) and the majority (62,0 %) felt that they were able to complete the tasks assigned to them. 62.7% of students did not look forward to classes (Figure 18).

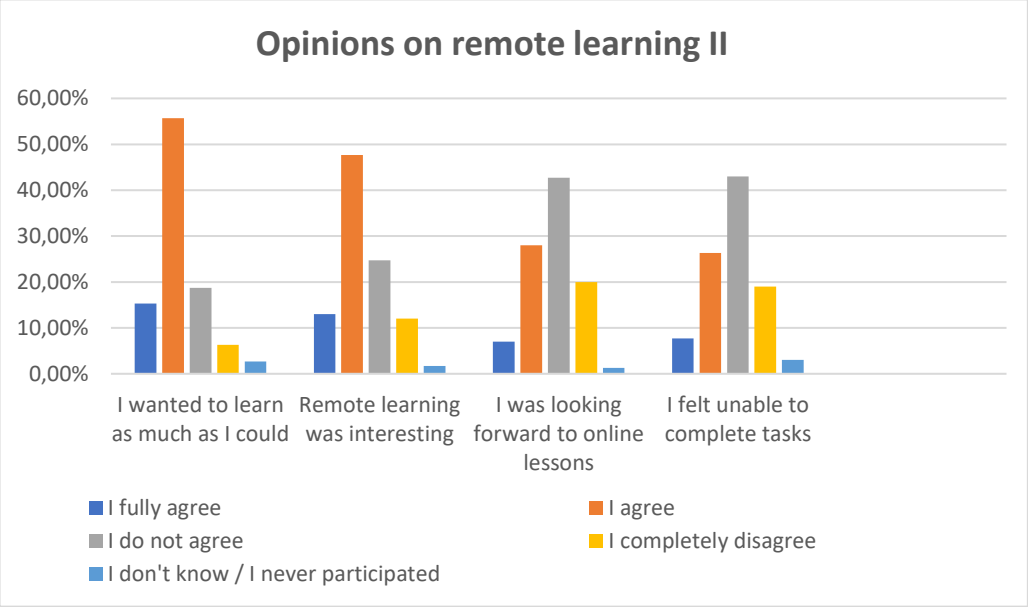

Figure 18. Student's opinion about emergency remote teaching II (PCSET 2021)

4.3 The pros and cons of online education

Another area of interest was the advantages and disadvantages of online education. In Figure 19, we can see that the students strongly agreed or strongly disagreed with several statements. Students, in most cases, stated that they did not have to prepare for school, did not have to rush anywhere, and had more time for themselves. They also perceived distance learning as a security measure against Covid. On the other hand, they perceived that they spent too much time at the computer, that they could learn more studying at school than at home, and admitted that it was easy to cheat.

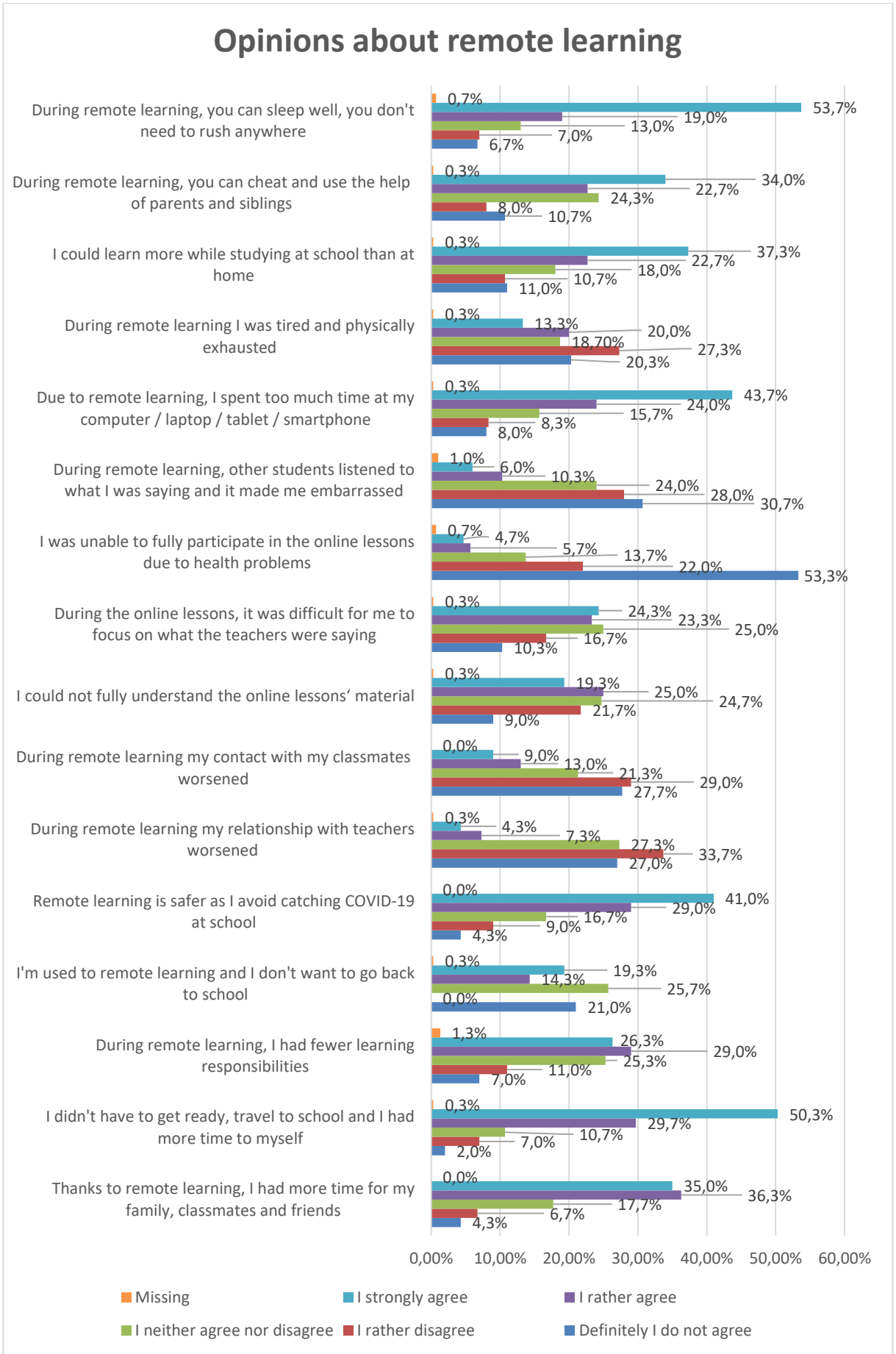

Figure 19. Pros and contras about emergency remote teaching (PCSET 2021)

4.4 Level of involvement in online classes

As Table 10 shows, on average, students spent 4,3 hours online. Most reported 5, 4 and 6 hours, 76 students reported less than 4 hours and 16 students reported more than 6 hours.

Table 10. Time spent on online lessons

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Time spent on online lessons	294	4,3	4,5	0,0	10,0	1,59	0,36

Source: PCSET 2021

In Table 11, we can see that students spent an average of 1,5 hours preparing for lessons and doing homework during distance learning. Due to the complexity and composition of the subjects, we consider this time to be insufficient.

Table 11. Preparation for lessons

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Preparation for lessons	291	1,52	1,0	0,0	9,0	1,23	0,8

Source: PCSET 2021

Table 12 shows how many hours a day, on average, parents / guardians assisted a student with online learning. As we can see, this time was on average less than an hour.

Table 12. Help with online lessons

	Number	Mean	Median	Minimum	Maximum	Dev. std	Coefficient of var.
Help with online lessons	295	0,59	0,0	0,0	6,0	0,94	1,59

Source: PCSET 2021

4.5 Attendance in online classes and reasons for absenteeism

As we can see in Figure 20, more than 90,0 % students attended all online classes or most online lessons. The good news is that only 4 students out of 298 have never / almost never attended online classes.

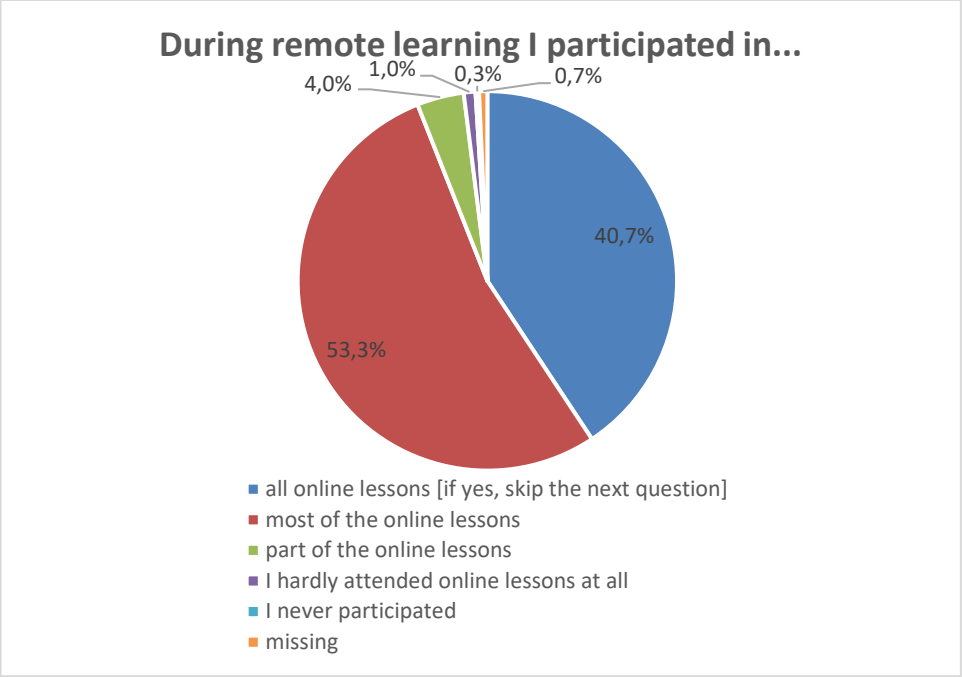

Figure 20. Participation in online classes (PCSET 2021)

In Figure 21 below, we can see the most common reasons why students did not attend online classes. Foremost, they stated poor health followed by computer problems, a technical equipment issue, and the third most common cause was so-called "Other reasons" such as that they fell asleep, a visit to a doctor, veterinarian, vaccinations, problems with the internet connection, etc.

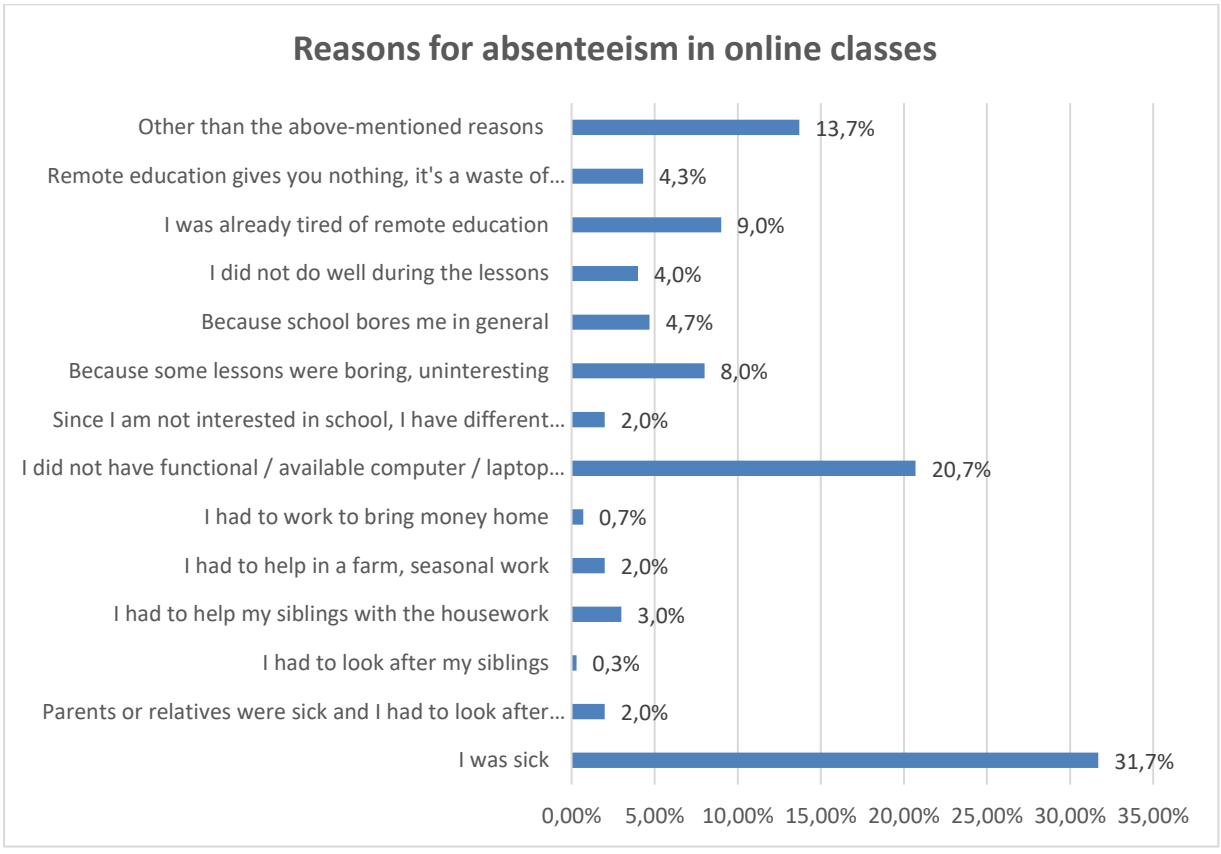

Figure 21. Reasons for absenteeism in online classes (PCSET 2021)

4.6 Readiness for school learning

We can note that most students (n = 117) would prefer to return to traditional school education. There is also a relatively sizeable and even distribution of students among those who would rather stay in distance education, those who would prefer a hybrid form of education, and students who would prefer to stop studying altogether (Figure 22).

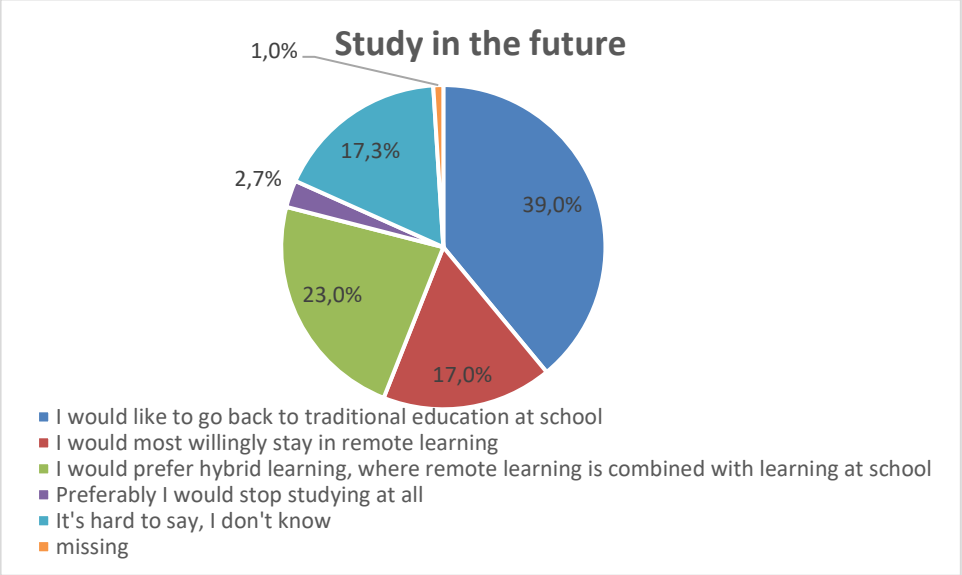

Figure 22. Students' opinions about how they would like to continue learning in the future (PCSET 2021)

4.7 Educational aspirations

As we can see in Figure 23, most students plan to continue at a high school and wish to obtain a high school diploma or at a general education school (e.g. a gymnasium). It is gratifying that only 2,0 % of students do not want to continue their education.

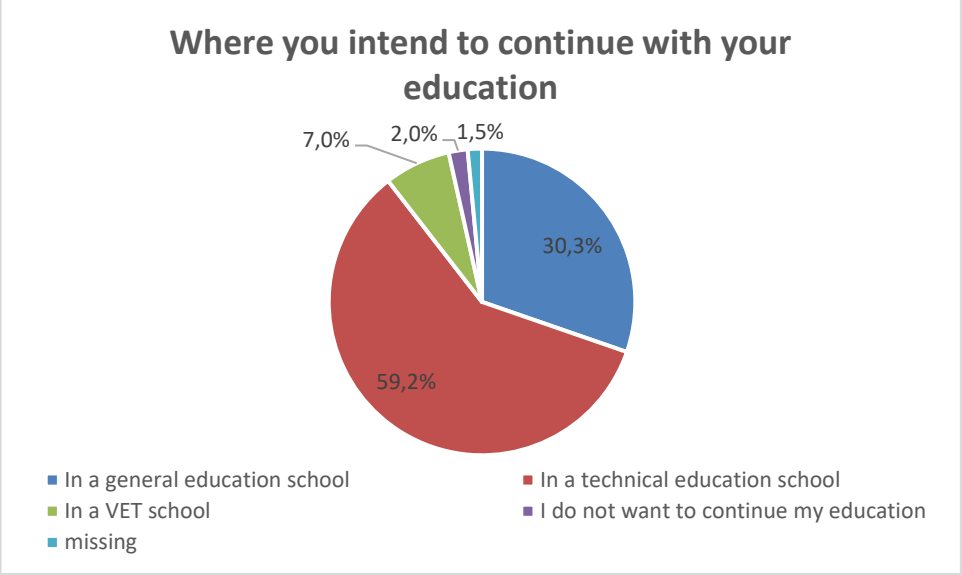

Figure 23. Students' educational aspirations in the future (PCSET 2021)

4.8 Summary of the section

We can state that students usually have technical equipment and material-space conditions sufficient for distance education. Although, they are aware of the benefits of online lessons in the comfort of their own homes, on the other hand, they recognize the limitations of this form of teaching.

5 Main research results and further recommendations

In the project "Preventing post-COVID Social Exclusion Together", we focused on supporting the social integration of young people and their families living in eastern Slovakia - in the Prešov region. It is one of the lagging regions of Slovakia. The unemployment rate in Prešov is 11,9 % (for comparison – the national level Slovakia is at 7,8 %). In addition to unemployment, the region suffers from many problems, such as lower living standards associated with the income of the population, the level of GDP per capita, low levels of reading and science literacy of pupils in eastern Slovakia, lack of job opportunities, departure of young and qualified people, sustainability of services and economic activities, and many others.

Apart from that, for the last two years (not only) eastern Slovakia has been fighting the global pandemic of Covid-19, which has significantly affected the lives of everyone (including students). Unpreparedness of education, problems of distance learning in the environment of pupils and families with problematic internet access, absence of necessary digital equipment, insufficiently coordinated approach by the Ministry of Education, lack of guidelines for distance learning - these are only a fraction of problems that were present (not only) in Slovak education.

The COVID-19 coronavirus pandemic has had an unprecedented impact on education and students around the world, including Slovakia, and we have naturally been interested in the factors of this impact.

The research provided us with an insight into the experience of students during the COVID-19 pandemic (in 2020 and 2021) in the areas of:

- the level of availability of technical equipment during distance learning,
- evaluation of the quality of teaching during distance learning,
- positive and negative characteristics of this form of education,
- mental health problems,
- social support,
- educational aspirations and willingness to stay in a stationary school education.

The target sample was students 13 - 15 years of age in public schools in selected peripheral sub-regions - specifically in the Prešov Region - in the district of Stará Ľubovňa with Svidník (not less than N = 300 in each country). Other criteria were: student class and residence: in rural areas / settlements up to 5,000 inhabitants (min. N = 150) and urban areas / more than 5,000 but less than 20,000 inhabitants (min. N = 150).

The sample was very balanced in terms of gender and the average age was 13,6. In the research sample, most students have 1 sibling, the parents have mostly completed high school with a high school diploma, and the students rated the standard of living as very good (e.g. the family has the necessary technical equipment for distance education).

• **The level of technical availability of equipment during distance learning**

Regarding technical equipment availability, we noted that 2/3 of students were able to fully participate in online lessons with the technical equipment of the household (laptop, smartphone). These results did not surprise us, as even though the Prešov Region is one of the less developed regions, technical equipment of this type is standard due to the current generation of children and youth. This is partly because many tasks, exercises, and even communication between school and family take place in most schools through the so-called Edupage. So the family is actually forced to acquire a computer and an internet connection. Of course, the Internet and available technology is a tool for communication in the online space, it is a tool for finding information, getting a job or communicating with offices, a doctor, etc.

Thanks to the help of humanitarian organizations, or as a sponsorship gift from non-profit organizations, ownership of a computer or smartphone is becoming a standard even in poor families. What contributes to the fact that even in socially excluded communities there is a common internet connection is the affordability of these services, frequent connections with TV and other services.

From our experience of research in socially excluded communities and also in our work in NGOs, in which we work to help families in need, we dare to say that financial literacy is often absent in these families in the first place. In socially excluded communities, it is common for a person to be fixed on owning a telephone / computer (which gives them the necessary status in the community and is a communication tool) and this materialism is often preferred over satisfying basic needs. The family often does not have a set financial budget, there is no perception of financial stability, or an outlook into the future.

We visited families several times living in very poor conditions, whose home furnishings were considerably neglected, the condition of the household was inadequate, the standard of living was low, but the family owned at least one smartphone, TV, laptop and of course had an internet connection. It often increases their status within the community, a common view e.g. movies is a tool of interaction in their community.

The second factor is also underdeveloped critical thinking. The family often "takes" the latest smartphone / laptop from a telecommunications company for "€ 1" without sober consideration of the terms and conditions, while not dealing with subsequent (often hidden) fees, flat rates, or perceiving the wider relationships and contexts of this "advantageous" price. They do not work with information, and it is often because they fall into products and services they do not need, through the advertising and marketing of companies that they cannot critically evaluate. Socially excluded communities often live "here and now", they do not think about the future.

In addition to the factors mentioned above, which describe why students had the necessary technical equipment during distance learning, it is also necessary to take into account that they did not have to answer honestly. From a developmental psychology point of view, older school age is characterized by the fact that the student want to "make

an impression." It can be a defensive reaction to the burden (Tisovičová, 2007), which can be based on a feeling of shame in the absence of material security, perceptions of family poverty or self-esteem and self-perception.

- **Evaluation of the quality of teaching during distance learning**

The quality of teaching during distance learning was assessed by students as much lower and slightly lower compared to traditional lessons. More than 60% of students did not look forward to classes, which indicates a low assessment of the quality of teaching during distance learning.

As we have said several times, schools, principals, teachers, pupils and parents were not prepared and trained for this situation as part of the epidemiological measures and the associated closure of schools. In the context of undergraduate teacher training, the implementation of the distance form of teaching has not yet received sufficient attention. Insufficiently developed digital competencies of teachers, insufficient support from the Ministry of Education, and insufficient technical and material equipment of schools have contributed to the quality of online lessons. Only less than 1/3 of students rated online classes at the same, higher or much higher level compared to stationary lessons.

Students said they feared their teachers' expectations after a return to traditional education. In the context of the specifics of distance education, these concerns can be perceived as justified. After the end of the epidemic and the reopening of schools by the public, there will be a great emphasis on classification and grading, the "catch-up" of the curriculum, and testing. Although, as stated in the Methodological Recommendation on the Content and Organization of the Educational Process in Primary Schools (2021, p. 6): according to the methodological guidelines of the Ministry of Education, Youth and Sports of the Slovak Republic the return of pupils to schools (pedagogical area) requires the creation of a plan for an adaptation period that lasts at least 1-2 weeks. The plan should include the development of rules and procedures during the adaptation period, which include, for example, adjusting the school timetable and emphasizing pupils' socialization during the first week, not subjecting students to oral examinations during the first two weeks and tests or essay assignments during the first three weeks after returning, regular classroom classes, introduction of physical activities in the outdoor environment, etc. ”This document does not clearly recommend that the knowledge and skills of primary school pupils be tested by written and oral examination at least 2 weeks after the start of full-time education.

- **Positive and negative characteristics of this form of education**

The biggest positives of distance education are that students did not have to travel to school, they didn't have to rush anywhere and had more time for themselves, they also perceived distance education as a protection of their health, thus reducing the possibility of a COVID-19 infection. On the other hand, the biggest negatives for them were that they spent too much time in front of a computer, that they could learn more while studying at school than at home, and they also admitted that it was easy to cheat. Students also perceived negatively the feeling that they often did not understand the information presented. As Ostertágová &

Čokyna (2020, p. 18) state: "More than half (53.7%) of teachers stated that they had a problem explaining the curriculum effectively during distance learning."

The distance form of teaching undoubtedly has its advantages, which were appreciated not only by students but also by teachers. But what is indisputable is the fact that online education has its limits. These include not only the specifics of the online space, the need for quality technical support on both sides, but especially the reduction of teacher-student interaction and the possibility of classroom cooperation.

- **Mental health problems**

The area of mental health is mentioned quite often in connection with the Covid 19 pandemic. Social isolation, fear of a possible infection, and disruption of people's comfort are subconsciously or unconsciously always transformed into mental well-being and reflected on the quality of life.

In the context of the research, we were, of course, interested in the impact of the Covid 19 pandemic on students' mental health and psyche.

When we look at the results of the research, we can state that 37,0 % of students show depressive symptoms in the analysis of the results of the questionnaire. About two-fifths of the sample belongs to those who score less than the cut-off value.

We found the average level of time burden on students, which was indicated by the average level of time-related stress, to be close to the middle of the subscale. The same was true for the observed average scores on the mental health scale. In terms of physical health, we observed the average score to be below the desired level. The overall score of the questionnaire indicates an average level of stress in the sample, with almost two-thirds of students having a moderate level of stress. The proportion of students reporting low levels of stress is relatively high; however, we must emphasize that almost a tenth of the students report high levels of stress, which may be associated with a reduced level of well-being.

We found that most students (65,0 %) are certainly satisfied or rather satisfied with their lives, while about 14,0 % are definitely dissatisfied or rather dissatisfied. However, about 19,0 % of students said they could not assess the level of satisfaction with their lives.

According to Ostertágová & Rehúš (2021), teachers also experienced a deterioration in the area of well-being and mental health. 40.9% of teachers reported a deterioration in their mental health (35,1 % slight deterioration and 5,8 % significant).

It is therefore clear that the closure of schools and the transition to distance education had a significant impact on the mental well-being of not only students but also teachers and, of course, other participants in the school system (e.g. parents).

- **Social support**

In the context of distance learning of students, we were, of course, also interested in the area of social support. The results show support, especially from parents, teachers and

peers. The students stated that they received the most support from their parents and classmates. A significant number of students also noted that their siblings supported them and, of course, the students used the Internet as a problem-solving technique.

The teachers of individual subjects and classmates ranked in fifth and sixth place, respectively, which may be surprising in light of the SSYSS results. Students may have a closer relationship with their parents, siblings, and classmates making it easier to ask them for help. Receiving support from other family members occurred for approximately 15,0 % of students.

Support from tutors and school psychologists has been relatively rare. Unfortunately, having a school psychologist, social pedagogue, or a tutor is still not the standard in Slovakia. Although, there is currently a lot of talk about creating inclusive support teams and supporting the creation of a system of educational and pedagogical counselling, we must state that this trend in Slovakia is still in its infancy and has a long way to go before it is implemented in the school system.

We also think that in Slovakia cooperation of schools with a psychologist or other experts is still distant. Tutoring or other forms of mentoring, supervision or coaching, which are very widespread abroad and have a stable place in school systems, are still largely unknown in our country. The reasons for this are a lack of adequate financial evaluation of the so-called non-teaching staff as well as accredited education, and the lack of acceptance and the perception for the need for these types of support teams in schools in the teaching staff or in society as a whole.

- **Educational aspirations and willingness to stay in stationary school education**

The last area that interested us in the research was the students' ideas about continuing schooling. We must state that the results are more than favorable. Most students plan to continue at a secondary vocational school with a high school diploma or at a general education school (e.g. a grammar school). It is gratifying that only 2% of students do not want to continue their education. This fact may be related to the overall outlook of employers who seek a long-term trend of increasing qualifications. As the analysis This Makes Sense (2020, p. 774) states: "The share of university-educated people in Slovakia is lower than the EU and OECD average. However, there is a growing trend that indicates that Slovakia is likely to meet the EU's target of 40% of university-educated people aged 30-34 by 2020." We did not investigate in the research where students want to continue their studies. As the results of the research This Makes Sense (2020) suggest, almost half of the interviewed high school students plan to study abroad after graduating from high school. The results of a questionnaire survey among university students who are already studying abroad suggest that their motivation to leave Slovakia was strong. A substantial majority of respondents did so in the belief that the university they selected has a better reputation than universities in Slovakia. Half of the respondents also expressed the belief that a university degree abroad would open the door to better job opportunities for them. It also proves to be a problem that our students plan to stay abroad after graduating from university.

Therefore, we approach these results a little sceptically, as there is a trend of graduating from high school in Slovakia, but the subsequent university studies may be abroad, which is associated with the risks of student outflow abroad.

The following recommendations, based on the research results, can help answer questions in Slovakia and could serve the Ministry of Education as well as other actors in education.

In terms of the results of the questionnaire survey, we would like to formulate the following recommendations to the questions:

1) What needs to be done to prevent the educational and social exclusion of young students during a pandemic?

- identify students' diverse educational needs;
- create a quality system and process for diagnosing and identifying students' needs;
- strengthen the readiness of schools to respond to students' diverse needs (whether in terms of staff, material, space, technology, etc.);
- create a functioning and flexible structure of internal and external support for schools (whether by education professionals, the corporate, private, or non-profit sectors);
- implement support tools in education;
- strengthen the skills of working with students from socially excluded communities as part of undergraduate teacher training;
- make methods and forms of work with students more attractive within the full-time and distance education forms;
- apply the concept of early childhood education and care to the school system;
- set up a system of work with students from socially excluded communities at pre-school age;
- create a system of further education in the field of support for students from socially excluded backgrounds (courses, trainings);
- take measures to increase the number of pupils with access to online learning and to promote ICT-enabled learning;
- make available free data, computers, and other technical equipment to students, as well as to teachers, from home;
- take measures to support full-time teaching for selected groups of students whose medical condition or other specifics do not allow them to participate in distance learning, e.g. personal education in the children's home or at an alternative premises (e.g. in community centers, cultural centers);
- ensure systematic and continuous contact of teachers with students from socially excluded communities also within the so-called offline teaching (e.g. by combining the sending of worksheets, study materials, tutor visits, or telephone contact with students);
- create a comprehensive support system for teachers (tutorials, TV broadcasts, etc.);
- motivate teachers to educate and improve their skills in both offline and online distance learning;

- create space in the school education system for development and work with topics such as well-being, mental health, work with prejudices, segregation, social skills, critical thinking, etc.

2) How to support students without IT equipment during distance learning?

- provide students with technological equipment and internet access;
- support the implementation of tutoring - e.g. in the form of peer tutoring (high school and university students);
- integrate a system of mentoring and tutoring into the system of education of students from socially excluded communities;
- support and initiate the creation of educational and support centers in which students from socially excluded communities could complete tutoring programs, self-development programs, or have access to computers and the Internet; have access to study literature or work on projects;
- create a comprehensive and integrated system of online courses; on which students in the support centers could work with a mentor;
- increase the share of project teaching and apply it in the concept of working with students from socially excluded communities;
- create a functional system of educational and social support in the centers (mentor, coach, tutor, supervisor, social pedagogue, psychologist, etc.);
- strengthen work with family and legal guardians; to build effective cooperation between school and family;
- establish cooperation between the school, the telecommunications sector, and the media sector;
- open cooperation with a third sector, non-profit organizations that have experience in educating students from socially excluded communities.

Glossary of abbreviations and terms used

ACEC	Association for Culture, Education and Communication
EÚ	European Union
HDP	Gross domestic product
IKT	Information and Communication Technologies
ISCED	International Standard Classification of Education
IVO	Institute for Public Affairs
IVP	Institute of Educational Policy
MŠVVaŠ SR	Ministry of Education, Science, Research and Sports of the Slovak Republic
OECD	Organization for Economic Co-operation and Development
PCSET	Preventing post-COVID Social Exclusion Together
PF	Faculty of Education
PSK	Prešov self-governing region
R	Reverse
SŠ	High school
ŠPÚ	State Pedagogical Institute
ŠÚ SR	Statistical Office of the Slovak Republic
ŠVVP	Special educational needs
VŠ	University
VÚDPaP	Research Institute of Child Psychology and Pathopsychology
ZŠ	Primary school
WHO	World Health Organization
%	Percentage
€	Euro
n	Number

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