

**Finnish Students' Educational Provision Experience Towards
Resilience, Recovery and Renewal of
Education Systems**

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SUMMARY

The aim of this study is to learn in what ways has the COVID-19 pandemic influenced young people's educational experiences, psychosocial well-being, and engagement with traditional and local practices from its onset to the recovery phase in Lapland, Finland. This study is conducted in REAP - Resilient Experiences and Agency of Youth and Children During the Pandemic: Re-visioning Education through Storytelling - project that compares the experiences of young people in Canada, Finland, and the UK. In this study, the responses of the young people from Finland are investigated.

In order to meet the current changing demands of society and enterprises, reformation of the educational system is needed. Deep learning theory (Fullan et al., 2017) provides a four-layer framework to generate the set of six global competencies that are essential for learners in their future working life. Furthermore, radical collegiality (Fielding, 1999) highlighted the focal role of deeper engagement beyond student voice and student agency to empower the new learning partnership with teachers, families and communities. Together, they plait a well-done braid to form a theoretical foundation for this study.

By combining both quantitative descriptive analysis and qualitative thematic analysis, this exploratory mixed methods study examines the responses of 116 secondary students studying in Finland. The findings can provide insights into how

these experiences can foster resilience, support recovery, and drive the renewal of education systems by enhancing educational delivery, promoting psychosocial well-being, and leveraging local and traditional knowledge.

Keywords: recovery and resilience; Covid-19; online learning; deep learning; radical collegiality.

X Thesis does not contain personal data of any other than the data of the author/authors.

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1. INTRODUCTION

1.1. Educational Transformation as an Imperative Priority

The COVID-19 pandemic (WHO, 2020) posed unprecedented challenges to people worldwide. Even after the pandemic, governments and educational systems continue to face demands for recovery from its disruption. Additionally, they are under pressure to prioritize matters that were once considered 'important in the long term'—such as digital transformation (Aagaard & Lund, 2019), resilience (Borazon & Chuang, 2023), and systemic renewal (OECD, 2018)—as immediate strategic goals and practices. Traditionally, these strategies have primarily focused on equality and quality. Disruption caused by school closure affected 1.6 billion learners in 190 countries (UNESCO, 2020) as well as the swift and universal shift from on-site learning to distance or hybrid manners. Many meta studies show consensus evidence about the detrimental effect of the pandemic on student achievement (also known as learning loss or learning deficit) globally (König & Frey, 2022; Moscoviz & Evans, 2022; Patrinos et al., 2022; Storey & Zhang, 2024), significantly in mathematic and science subjects, along with inability to catch up unfinished learning after one year from the said crisis (Di Pietro, 2023). In a study examining 17,116 respondents from 41 European countries, Doolan et al. (2021) investigated students' insights of advantages and disadvantages of the higher education students in their distance learning during the pandemic outbreak. Advantages comprise more bonding with family, more time autonomy, and lecture supports. Disadvantages include difficulties in diversifying class activities, lack of learning collaboration, limits in online material accessibility, heavier workloads, low reliance on student services, concerns about cost of living for vulnerable cases, and worsened emotional well-being. The experience of low educational quality is consistent with the report of Abdrasheva et al. (2022), in which they attributed the cause to technical barriers, insufficient digital fluency, and the absence of peer interaction. This underlines the critical role of a precondition readiness and recovery strategy in all levels for the success of educational transition and future direction.

An analysis by Salmela-Aro and Lavonen (2023) informs the good preconditions for Finland to switch into online learning supported by established technological infrastructure along with teacher and student competences. Tracking Europe's digital performance and development, Finland ranks top position in the 2022

EU Digital Economy and Society Index (DESI) leading in human capital index (European Commission, 2022). Finland is highly positioned with 79% of the population with basic digital skills and 48% above basic skills against 54% and 26% of EU average results respectively. Even if Finland had a well organised switch to online teaching and learning, there still exists evidence about a small amount of learning loss, such as for reading and maths competence (Lerkkanen et al., 2022), and final secondary school test (Riudavets-Barcons & Uusitalo, 2024). Moreover, Salmela-Aro and Lavonen (2023) identifies an effect in terms of unhealthy psychological well-being to teachers and students during Covid. That is, the teacher engagement is halted, and burnout doubled during the crisis period, and afterward the recovery was recorded when the situation was enhanced. For the students, adolescent mental health worsened in all waves of the pandemic (Alanko et al., 2024; Rimpelä et al., 2023). Low mental well-being encompasses health complaints (Rimpelä et al., 2021); loneliness (Hemberg et al., 2024), anxiety (Kiviruusu et al., 2023), and frustration (Hagedorn et al., 2021). Several studies inform that high levels of well-being are associated with low levels of academic stress and school satisfaction (Rimpelä et al., 2021; Sarasjärvi et al., 2022). Also, the student services support and academic strategy from higher institutions may improve level of educational satisfaction (Korte et al., 2022).

It should be noted that Covid-19 is no less than a final straw urging the long-established call for action of educational reforms. Even in early decades of this century, definition and understanding 21st century education have been already the most attention-grabbing discourse involving all nations and relevant stakeholders, from OECD, World bank, the European Union, UNESCO, global corporations as Microsoft and titan banks, educators, parents, universities and researchers (UNESCO, 2015; OECD, 2018; Fullan et al., 2020; Patrinos, 2020; Hautamäki et al., 2023). The main concerns diversify a wide range of sustainable solutions in response to global drivers and issues: complexity, disruption, and fast-changing technology (Drake & Reid, 2020). In order to prepare students to live and work, to adapt and succeed those drivers in the new context, a shared vision for the role of education is apparently to reshape the way of learning, switching the focus into integrative-based and transdisciplinary strategy to promote global transversal competences (also known as 21st century skills) (Haryono et al., 2017; OECD, 2018). The concept of transversal competences might be diverse in numbers and types depending on different national policies, specific strategy and

working requirements but in large and at one, they all share a general conceptualisation of the set of skills that helps students confront authentic real-world issues rather than independent discipline problems (Hautamäki et al., 2023). Most well-known transversal competences include critical thinking, digital skills, meaningful learning, intercultural competence, collaboration, and knowledge transferable skill.

To put it simply: the pandemic has forced education on a worldwide scale to urgently review its fault lines and zero in on what matters the most. Education is not necessarily an “instrument *for* sustainability” (Foster, 2001), but it isn’t meant to be “a part of a system of stagnation” (Fullan, 2020) and instead, education institutions, teachers, and learners must take action to become again a changing agent of the world (Thangeda et al., 2016).

1.2. Deep Learning as Educational Strategy to Promote Transversal Competencies

We are facing unprecedented challenges – social, economic and environmental – driven by accelerating globalisation and a faster rate of technological developments... The future is uncertain and we cannot predict it; but we need to be open and ready for it... Schools can prepare them for jobs that have not yet been created, for technologies that have not yet been invented, to solve problems that have not yet been anticipated... Education can equip learners with agency and a sense of purpose, and the competencies they need, to shape their own lives and contribute to the lives of others. (OECD, 2018, p.2)

Being a generic key concept in many international discourses, policy documents, research reports and other educational media content in terms of integrative-based and transdisciplinary curriculum (Hautamäki et al., 2023), the term *deep learning* (in education), however, is diverse in understandings and usages (Kovač et al., 2023). This is not to mention the confusion of another homonym, deep learning, coming from the different fields of artificial intelligence and machine-learning (Dimiduk et al., 2018). In a systematic mapping review of 71 publications from 1970 to 2018, Winje and Løndal (2020) analysed and concluded two prominent ways of comprehension for this concept, especially for primary and secondary education: (1) meaningful learning and (2) learning transfer. The former conceptualisation regards deep learning as a learning

strategy to embrace intellectual, emotional, willing aspects to achieve coherence between multidisciplinary knowledge, between academic and personal experience, and between new and already known knowledge (Ausubel, 2000; Tochon, 2010). The latter meaning, learning transfer, is defined as “the learning process leading to transfer of learning to a novel situation” (Winje & Løndal, 2020).

In this study, we choose the first conceptualisation of the student approach of meaningful learning when referring to the deep learning term. On this path, deep learning is interpreted as a part of deep education implicating in a “present future” direction (Holfelder, 2019), which induces the connotations of learning strategy towards the readiness of a globally sustainable future. In this understanding, deep learning inherits the root of interdisciplinary education, departing from the traditional “present past” paradigm (Fullan & Langworthy, 2014). The traditional “present past” education model or subject-based curriculum has been long established, well entrenched (Drake & Reid, 2020) and continues being a dominant teaching content (Adolfsson, 2018). Drake and Reid (2020) sum up 3 main characteristics of this traditional approach, including (1) distinct disciplinary organisation; (2) teaching strategy as transmission model and authoritative learning content; and (3) learning strategy as memorisation and rote learning manners.

Fullan et al. (2017) proposed a deep learning framework as a systematic change in school organisation’s culture to achieve six global competencies (6Cs) by a four-layer process in three levels of school, district and state. The 6Cs comprise: character, citizenship, collaboration, communication, creativity, and critical thinking. The 4-layer framework involve: (1) 6Cs as the expected outcomes; (2) four supporting elements: pedagogical practices, learning partnership, learning environment, and leveraging digital and technology; (3) five mobilising conditions: vision, leadership, collaborative cultures, deep learning, and new measurements; and (4) collaborative inquiry process grounding the work and bolstering the interaction effect of all layers. The authors suggest that this framework enables the practices straight out from the middle level (municipalities and schools) and from the bottom level (educators and students) instead of being driven from top-down government instructions. In fact, many countries are currently embedding the deep learning framework to their curriculum such as: Australia, Canada, Finland, the Netherlands, New Zealand, Uruguay, and the United States (Fullan et al., 2017).

Finland is well recognised as an expert in multidisciplinary and competence-based learning practices. The cornerstone of Finnish education is the National Core Curriculum (NCC) with a 10-year renewal schedule after 1985 (Vitikka et al., 2016). The ongoing NCC reform closely aligns with the deep learning framework across its four core pillars. Firstly, the reforms are based on trust, handing the authority to the schools, teachers and learners. Secondly, from the latest version, NCC2014, transversal competences are officially promoted and integrated into curricular objectives and each subject (Finnish National Agency for Education, 2014). Thirdly, the NCC 2014 also introduced the multidisciplinary modules, where students can explore world phenomena by designing, implementing and connecting their own knowledge to new study across subjects (Hietamäki et al., 2024). Fourthly, there is room for municipalities and schools to adjust the curriculum with respect to local-based problems and priorities. Hautamäki et al. (2023) pointed out some empirical issues when implementing this renewal, including the need for clear guidance along with measurement for transversal competencies and learning outcomes of the multidisciplinary modules. To this problem, the deep learning framework of Fullan and colleagues is suggested to be a theoretical mechanism and justifications to scrutinise and study further (Hautamäki et al., 2023).

1.3. Radical Collegiality Entailing Students as Agents of Educational Reformation

In the deep learning framework of Fullan et al. (2017), the fourth layer, namely collaborative inquiry process, works as the catalyst permeating in the whole framework. The main point is to invite colleagues' inclusiveness in making learning design and moderation throughout three other layers of deep learning framework. Even though Fullan used the word "*collaborative*", his description articulates on a number of counts about the concept called "*radical collegiality*" by Fielding (1999). In my advocacy, the explicit distinction between collaboration and collegiality is needed for researchers, educators, learners, and stakeholders not only to drive the steer from traditional approach of teaching as delivery into the 21st century authentic learning quality with trust, reciprocity, communality and dialogic form of democratic doing, but also to enhance educational equality which recognises students as crucial agents of transformation (Fielding, 2001). Fielding differentiates the two terms by their key drivers. Whilst collaboration, a '*plural form of individualism*' as Fielding defined,

focuses on the instrumental process of working together for intended gain, collegiality is based on a communal core that requires a quality relationship with more profound commitment and shared purposes.

By and large, there are three critical principles extracted from radical collegiality of Fielding (1999) and collaborative inquiry process of Fullan et al. (2017) that promote authentic learning initiatives for deep learning process, including:

1. To apprehend and encourage professional educators' commitment to take into account the support and learning from peers, students, parents and community.
2. To give prominence to some characteristics when inviting partners to enter collegium, including: Trust, Communality, Reciprocity, and Dialogic Practices. Together, they foreground an increasingly authentic democracy in both education and society.
3. Collegiality should not and could not be left by chance, its far-reaching requisites are (1) explicit identification of the core agent of change and (2) cultivation for teaching-learning intra-action, where teachers are the activators of learning (Michael & Gallagher, 2017) and learners are colleagues during the process.

In terms of peer support and learning, studies from Ecuador (Román et al., 2021), England (Spicksley et al., 2021), Iceland (Sürmeli et al., 2024), and Kuwait (Alsaleh, 2021) indicate that teachers engaged in collegial relationships were more likely to benefit from professional, social, and emotional support. This, in turn, increased their ability to cope with the sudden disruptions caused by the pandemic.

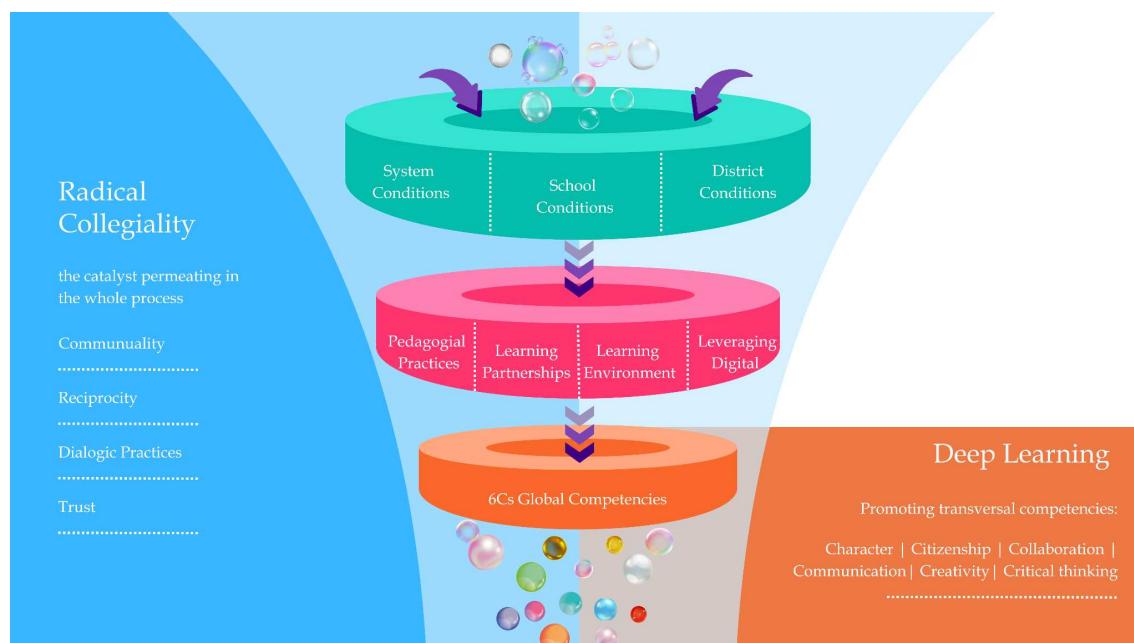
The challenge of positioning students as agents of transformation is commensurate with their vital role for new pedagogy. The hierarchy of the school system where teachers are leaders and students remain followers might be one of the biggest challenges. However, increasing innovation projects result in positive outcomes when inviting student voice and involvement to the arena of educator's partnership rather than placing them in a passive consumer position (Healey et al., 2014). Examples are students as course co-designers (Mihans et al., 2008); course co-evaluators (Bovill et al., 2010); assessment method practitioners (O'Neill, 2011); skills co-assessor (Deeley, 2013); researchers (Walkington, 2015); content co-creator in Mathematics (Duah & Croft,

2012); students as partners (Matthews, 2016), and students as colleagues (Scoles et al., 2019). Furthermore, in a project named “Students as Colleagues in the Review of Teaching Practices” (SaC), where students paired with a staff member to provide advices, evaluation in order to investigate the collegial student-staff relationship, Scoles et al. (2019) determined positive impacts concerning emotional connections, collective benefits, moment of professionalism and responsibility, and social role disruption. Since this is still an emerging topic, there is a lack of studies in primary and secondary level as most projects are for higher education (Fielding, 2001).

In a nutshell, the radicality in collegiality is that it opens a door for teachers to appreciate the societal nature of their work and include other members of community in whom the practice of education is invested and intended, in turn fostering the engagement level of learning that explicitly nurtures their intellectual, emotional, and professional level in kind. Students, more than anyone, own themselves the expertise and experience of being students (Sorenson, 2001; Cook-Sather et al., 2014). Fielding theory of collegiality (2001) can be a significant compensation to elucidate Fullan’s deep learning framework (2017) as illustrated in the framework following. **Figure 1** illustrates and summaries the Deep Learning framework of Michael Fullan et al. with the addition of Radical Collegiality of Michael Fielding.

Figure 1

Radical Collegiality in Deep Learning Framework (RCDL Framework)



As depicted in **Figure 1**, Deep Learning framework is designed to adapt diverse contexts of schools, districts, or systems in order to aim 6Cs Global Competencies. Surrounding the whole 3 layers of Deep learning model is the fourth layer of Radical Collegiality, where communality, reciprocity, dialogic practices and trust permeate the whole Deep learning process. The green highest ring is the layer of conditions, where systems, schools and districts support deep learning strategy. The pink ring is the layer of four elements of learning design (pedagogical practices, learning partnership, learning environment, leveraging digital). And the orange ring is the outcome layer, where 6Cs Global Competencies are the intended result of the whole framework.

1.4. Research Purpose and Questions

Objective

The Covid-19 pandemic has impacted all aspects of living conditions and the way people interact with each other especially in teaching - learning design. On one hand, the disruption promoted the utilisation of online learning and on the other hand, it changed students' experience, psychosocial well being and connection with family and community. In the context of resilience, recovery and renewal in the educational system, it is important to understand the insights of the students and welcome their voices as an important source when making a teaching - learning strategy.

By using Deep Learning (Fullan et al., 2017) and Radical Collegiality (Fielding, 2001) as a theoretical foundation, we ask: **In what ways has the COVID-19 pandemic influenced young people's educational experiences, psychosocial well-being, and engagement with traditional and local practices from its onset to the recovery phase?**

In order to find the answer to this question, it is important to address 3 sub questions following:

Sub-Questions

1. How young people experienced education provision during the pandemic (both offline and online, analogue and digital), throughout lockdowns, and now in recovery?
2. How has the COVID-19 pandemic impacted the emotional and psychosocial well-being of young people?

3. How has the COVID-19 pandemic influenced young people's connection to traditional and local practices?

The current study expands on the idea that educational experiences of the youth during and after the pandemic are deeply interconnected with their emotional resilience, sense of belonging, and engagement with their peers in both digital and traditional learning environments. By examining these dimensions, the study aims to contribute to a broader understanding of how education systems can adapt to crises while fostering inclusivity, well-being, and sustainable learning practices. By addressing the outlined sub-questions, this research will provide critical insights into how educational institutions and policymakers can integrate students' lived experiences into educational reform efforts, in turn fostering more resilient, student-centred, and culturally responsive learning environments. This study contributes to the Deep Learning framework and Radical Collegiality in a way that considers all elements of learning design (partnership, pedagogical practices, learning environment, and leveraging digital) from the middle level in cultivating intended learning outcomes, in which the collegiality with students and their community (peers, family, traditional and local community) is taken into account as the driving force for educational strategy. Last but not least, this study contributes to research of secondary students' experience, embracing the idea that students do hold the comprehensive voice to their own learning and they can reflect their experience of educational provision when given chances. At the end of the day, students are the main subject, the source and the master of their own learning journey.

2. METHODOLOGY

2.1. Research Context and Participants

In April and May, 2024 all grade 9 school students in Lapland, Finland were invited to answer an online questionnaire, delivered by Webropol Survey. Participation was voluntary and anonymous.

The questionnaire was designed by a team of researchers of the REAP -project from the Memorial University of Newfoundland, Canada, the University of Lapland, Finland and the University of Leeds Beckett, UK. It involved 43 five-point Likert-scale closed-ended quantitative questions and three open-ended qualitative questions. The questions were categorised in three main clusters (or constructs): (1) experience of educational experience during the pandemic; (2) psychological well-being; and (3) traditional and local knowledge. Each of these constructs is considered in the context of the COVID-19 pandemic and after it.

In summation, 162 participants from 182 respondents gave their consent to use their responses for research purposes. The respondents were in their final year of secondary school education. 158 students were going to be 16 and three students were going to be 17 years old at the time of the data collection in May to September 2024. After the cleaning process of removing non-consent and non-valid data, the final valid data are 116 respondents.

2.2. Sampling Method

The sampling techniques explicitly position each study across the spectrum of reliability for data collecting and analysis (Punch, 2006). To that end, the rationale of sampling choice is required to be consonant with the overarching aims of the research, from the realm of ontology, epistemology and axiology (Campbell et al., 2020).

In this study about secondary students' insights on educational adaptation to the outbreak and recovery periods, the researchers opted for the purposive sampling method. Purposive sampling is a collection of non-probability sampling techniques where researchers deliberately select a specific group of informants that are more likely to possess appropriate characteristics and useful information (Sharma, 2017). In order to meet the research questions of this study, the matching between the student's

educational levels (students' grade at the time of being asked) and the timeline of the pandemic needs to be taken into account. **Table 1** depicts the timeline of the Covid-19 pandemic as well as the respondents' educational level.

Table 1

Purposive sampling: Timeline of respondents' educational level and Covid-19 pandemic

Year	Late 2019	Early-Mid 2020	Late 2020	Early-Mid 2021	Late 2021	Early - Mid 2022	Late 2022	Early - Mid 2023	Late 2023	Early - Mid 2024
Grade of Respondents	5	5	6	6	7	7	8	8	9	9
Pandemic Timeline	Primary Level				Lower Secondary Level					
Events	Outbreak					Recovery Period				
	. December, 2019: the first outbreak of Covid-19 in Wuhan, China (1)	. 29 January, 2020: the first Covid-19 case in Finland was confirmed (2) . 16 March, 2020: schools in Finland are closed due to Covid-19 (3) . 14 May, 2020: schools are reopened (4)				. 30 June 2022: all Covid-19 related restrictions were lifted in Finland (5) . 27 July 2022: Finland officially transited to endemic phase. (6)		. 3 May, 2023: WHO declares end to COVID-19 as a global health emergency (7)		. June, 2024: Data collection of this research

Note: (1): WHO (2020)

(2): Reported by Yle News (2021)

(3)&(4): Kuitunen et al. (2020)

(5): Yle News (2022)

(6): Finnish Institute for Health and Welfare (2022)

(7): United Nations (2023)

There are three critical milestones to keep in view. Firstly, the school closure in Finland started from 16 March 2020 and reopened from 14 May 2020 (Kuitunen et al., 2020). Next, the Finnish educational system uses a single “comprehensive structure” for school from grade 1-9, in which grade 1-6 is equal to primary level and grade 7-9 refers to the lower secondary level (Finnish National Agency for Education, n.d.). Also, it is worth noting that an academic year in Finland normally commences in August and ends in the early June of the next year. All things considered, at the time of study, grade 9 was the most suitable group of students who had the most time experiencing online learning and recovery in secondary schools in turn being assumed to have the insights that appropriately reflect the research question's requirements.

2.3. Data Analysis

This exploratory study combines both quantitative and qualitative methods. To analyse 43 close-ended responses, the quantitative approach of descriptive analysis was applied. Before the analysis stage, the cleaning process was applied to remove non-consent and missing data. Descriptive analysis was used to check tendency, variability, frequencies and distribution of the data, in turn finding out the students' experience, perception in

two different times. A summary of the descriptive analysis procedure of this study is presented in [Table 2](#).

Table 2

Descriptive analysis procedure for close-ended responses

Stage 1	Cleaning data (via Microsoft Excel & SPSS26) . Translating questions and answers from Finnish to English . Excluding non-consent responses . Organising data into clusters . Testing for normality, reliability and validity . Cleaning missing values (listwise deletion)
Stage 2	Analysis (via SPSS26) . Measures of centre of tendency (mean, median) and measures of variability (Standard Deviation) . Frequencies, proportion, and percentage . Cross tabulation
Stage 3	Recording and reporting the results

It is worth pointing out that the author opted to not scrutinise further into correlation test in most cases and to not explore further the student characteristics with different level of evaluated matter in this study due to three main reasons: Firstly, the sample size was quite small and normality test results (histogram, Kolmogorov - Smirnova, and Shapiro - Wilk) showed evidence of non-normality for all 43 items of the questionnaire (*see the summary of normality test in [Appendix A](#)*). Secondly, the participants belonged to a specific group of secondary students that shared many similar socio demographic and academic characteristics. Last but not least, the questionnaire had been designed to examine multi-layer aspects with three independent matters and two different periods of time, but it still had to be simple enough for the participants. Altogether, conducting a deeper level of inferential statistic test for this particular questionnaire was not meaningful for this research objective. Instead of doing so, a simultaneous triangulation method (Morse, 1991) with the supplemental use of the qualitative data by three open-ended questions was practised. By employing multiple sources of data, in this case qualitative data, this method helps solve the hindrance by providing comprehensive explanation and exploratory results that hadn't been discovered in the close-ended part yet.

To treat these open-ended data, the process of systematic thematic analysis, developed by Naeem et al. (2023) was used as can be seen in [Table 3](#).

Table 3

Systematic thematic analysis procedure for open-ended responses

Stage 1	Transcription and familiarising
Stage 2	Selecting keywords
Stage 3	Coding
Stage 4	Theme development
Stage 5	Conceptualisation

It should be noted that the original process comprises six stages. However, the sixth stage of forming a model was incompatible with the objective of this study, thus, being unused for this specific situation. The thematic analysis will be specified and discussed in detail in the Chapter of [Empirical Findings](#).

2.4. Profile of the Sample

[Table 4](#) displays the distribution of respondents resulting in a higher number of females (59.1% valid percentage) than males (36.5% valid percentage) and there are also 4.4% who chose not to reveal their gender. The total original respondents of this question were 162 students, and the total valid respondents were 116 students.

Table 4

Sample profile - Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	35.3	35.3	35.3
	Female	70	60.3	60.3	95.7
	I don't want to say	5	4.3	4.3	100.0
	Total	116	100.0	100.0	

About age, as can be seen in [Table 5](#), 98.3% of students were on average 16 years-old. Due to the selected purposive sampling method, the requirement for age is quite strict, guaranteeing the students have the similar experience and physical development.

Table 5*Sample profile - Age*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	This year 16	114	98.3	98.3	98.3
	This year 17	2	1.7	1.7	100.0
	Total	116	100.0	100.0	

As presented in [Table 6](#), residence distribution shows that students are mostly from Kemi (55.9%), Kittilä (21.7%) and Salla (12.4%). Other students come from Ranua (4.3%), Tornio (3.7%), Sirkka (1.2%), and Kharlov (0.6%).

Table 6*Sample profile - Municipality residence*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Kemi	63	54.3	54.3	54.3
	Kharkov	1	.9	.9	55.2
	Kittilä	29	25.0	25.0	80.2
	Ranua	6	5.2	5.2	85.3
	Salla	12	10.3	10.3	95.7
	Sirkka	2	1.7	1.7	97.4
	Tornio	3	2.6	2.6	100.0
	Total	116	100.0	100.0	

It should be noted that the residence distribution is fully random based on the volunteer participation and their consent. All students of grade 9 in Lapland received the study invitation, and this result reflects the valid proportion of data collected.

2.5. Validity and Reliability

In a research paper, if we metaphorise a research question as a heart, a theoretical foundation as a brain, an analysis as the bloodstream, then reliability and validity must serve as the backbone supporting the entire process to stand firmly. In short, reliability refers to the consistency and validity is connected to the accuracy of the measurement

(Knapp & Mueller, 2010). In an attempt to increase reliability of this study, several techniques were used.

Mixed Methods: Triangulation Enhancement for Validity

The first attempt to strengthen the validity is to diversify the sources of information and the different ways of analysis with the help of qualitative quantitative mixed methods. As discussed in the part of *Data Analysis*, these practices are expected to promote the dynamic interplay between numbers and narrative, allowing confirmation of validity and holistic comprehension to the research phenomenon (Zohrabi, 2013).

Involving Different Dimensions of Time for Comparability

Three dimensions of time (before, during and after the pandemic) were involved in the same questionnaire. This is to help improve comparability and can help reliability in several ways. By checking consistency between questions in two periods, it can suggest whether the students understood the question well or indicate reliability issues. Also, all questions were organised chronologically and from the aspect of personal emotion to learning experience. This aims to help the students recall naturally and more accurately. However, involving different time aspects may cause memory distortion (unreliable responses due to forgetfulness after long periods) and question clarity. In order to mitigate those threats, the questionnaire applied a clear time frame by defining specific phrases for each question such as “during the outbreak”, “after the pandemic”.

Questionnaire's Development Guided by Expert Team Discourse

The 46-item questionnaire was built by team discourse involving 5 main person-in-charge and several valuable support from colleagues from three countries: Canada, Finland, and the UK. They are all working as educators, researchers of REAP - Resilient Experiences and Agency of Youth and Children During the Pandemic: Re-visioning Education through Storytelling - a project that compares the experiences of young people in those three nations. This means the interrater reliability and generalisation of this result will be aggregated and reported with the results from Canada and UK in a later report. By team discourse technique, the interrater reliability and content validity are expected to improve.

Missing Data Handled by Listwise Deletion

Within 162 cases responded, there are 45 cases (27.78%) with at least 1 missing value. There are 13 items (28.89%) with at least 1 missing value. Missing data ranges from 0.6% to 8%. For more details of the missing value report, please find in [Appendix B](#). Given that missing data can impact the statistical validity of the study, we conducted a combination of formal tests to comprehend the nature of missingness before choosing an appropriate method of handling missing cases.

Both a screening check in the missing pattern chart as well as Little's MCAR test results of a non-significant Chi-square statistic (p-value is equal to 0.960, much greater than .05) indicate the data are more likely Missing Completely At Random (MCAR). That means missing values are not systematically associated with any observed variables. However, since the sample size is 162 and the results from normality test suggest the data is non-normal distributed, Little's MCAR alone cannot confirm MCAR assumption (Van Buuren, 2018). To fix this pitfall, Mann-Whitney U tests and Chi-Square tests were used to compare complete and incomplete cases across key continuous and categorical variables respectively. The test yielded non-statistical results, further supporting the assumption of MCAR. More precisely, for continuous variables, Mann-Whitney U test results of p-value range from 0.114 to $1 > 0.05$; and similarly, for categorical variables Chi-Square test results of p-value range from 0.141 to $0.875 > 0.05$. Both results indicate no significance between the complete and incomplete cases, the data is unlikely Missing At Random (MAR) or Missing Not At Random (MNAR) and more likely Missing Completely At Random (MCAR). Being MCAR enables the use of more straightforward data analysis methodologies to solve missing data without introducing bias, such as listwise deletion, mean imputation, multiple imputation. Please check [Appendix C](#) for the detailed Mann-Whitney U and Chi-Square results.

The dataset excluding incomplete cases would be 116 cases out of 162 cases in total. Whilst this reduction seems to be noticeable, the remaining sample size is still sufficient for the planned data analysis, especially when this study's purpose is only exploratory and inferential analysis will not be applied further (as discussed in the [Data Analysis](#) section). Another considered factor is the non-normal distribution nature of the data that limits the study in non-parametric tests. All the tests used in this study, for

example, Mann-Whitney U Shapiro-Wilk test, Kolmogorov-Smirnov (K-S) test accept the sample size of 116, hence, this reduction does not pose significant limitations to the findings. In other words, it is safe to conclude the data after removing missing values still can provide meaningful statistical results.

Based on these justifications, among several missing data handling methods, the analyst selected listwise deletion (also known as complete-case analysis) for this study. This technique removes all cases with at least one missing value in their variables (Van Buuren, 2018). The method of Multiple Imputation of A Fully Conditional Method with Predictive Mean Matching (IBM, 2019) was also taken into consideration and a trial imputation had been conducted but then being excluded from this final report. Given the objective of the study requiring the more accurate and natural data, as well as the already supportive triangulation from qualitative data, listwise deletion offers a simpler and equally valid approach without additional sophisticated model assumptions.

Cronbach's Alpha Test for Reliability

In order to test internal consistency reliability of 43 close-ended questions, Cronbach's alpha test was conducted. As suggested by Creswell (2012), Hamedani et al. (2019), Hair et al. (2021), and Sigudla & Maritz, (2023), for exploratory study, the Cronbach Alpha value exceeding .60 indicates that items have acceptable internal stability and consistency. According to Cohen (1988), Streiner et al. (2015), and Gharaibeh et al. (2017), an item within has a high validity value when the correlation value of the corrected item with total correlation is greater than 0.30.

For a kind reminder, 43 close-ended questions were categorised into 3 main clusters (experience of educational provision, psychological well-being, and leveraging local and traditional knowledge and practices). For the first group of experience of educational provision, the Cronbach's Alpha test is not feasible because half of the set (7 questions) comprises nominal and ordinal scaled type (qualitative data), 7 remaining quantitative questions vary between agreement range and frequency range. Thus, items belonging to this first group must rely on other reliability enhancement techniques.

For the second group of children and youth's psychological well-being, as can be seen in [Table 7](#), a test result of 16 items showed that the value of Cronbach's alpha for this construct is .633, and it's considered to be moderate and acceptable for an

exploratory study (Hair et al., 2021). Moreover, within 16 items of children and youth's psychosocial well-being, 10 items are in the range of Corrected Item-Total Correlation (CITC) from 0.312 to 0.516, meaning good value of validity. However, there are 2 values at the negative 0.3. There are also other 4 items with CITC smaller than 0.3. The removal of items with negative and small CITC values was undertaken to strengthen the construct validity of the Children and youth's psychosocial well-being scale. By eliminating items that demonstrated a reverse and small correlation relationship with the overall scale score, we ensured that the scale more accurately reflects the theoretical construct it aims to measure.

Table 7

Cronbach's Alpha on 16 items of children and youth's psychosocial well-being

Reliability Statistics		
	Cronbach's Alpha	N of Items
	.633	16

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I miss the lockdown times.	-.353	.688
2. I was happy returning to school after lockdown.	.392	.597
3. I felt sad and isolated during the pandemic.	.449	.590
4. I missed being with my school mates in person.	.516	.575
5. I liked staying home and attending remote classes.	-.358	.692
6. I found it hard to concentrate during remote class.	.436	.586
7. I was quieter during online classes than I am in the classroom.	.352	.603
8. I was concerned about my family's health during the pandemic; it was on my mind.	.309	.608
32. I feel I am back to normal after the pandemic.	.037	.646
33. I can sleep better now than during lockdown.	.312	.608
34. My sleep schedule stayed messed up after lockdown.	.397	.595
35. The lockdowns changed me somehow.	.462	.581
36. I made new friends online through video games during the pandemic and we still keep in contact.	.108	.639
37. I formed the habit of using social media/videogames/TV a lot during the pandemic and I still do.	.325	.605
38. I spent more time with family members during the pandemic and I still do.	.268	.615
39. I am more active now than during the pandemic.	.296	.610

To refine the scale, items with CITC values less than 0.3 were removed one at a time, starting with the lowest. After each removal, the scale's reliability was checked. This process was repeated until all remaining items had CITC values of 0.3 or higher. As presented in [Table 8](#), after the removal of 7 items, Cronbach's alpha value of the construct is enhanced, reaching 0.784. It indicates "satisfactory to good" internal consistency (Hair et al., 2021). All CITC of all items exceed 0.3, ensuring validity of

this children and youth's psychosocial well-being construct. At the end of this process, the construct of children and youth's psychosocial well-being includes 9 items in total.

Table 8

Enhanced Cronbach's Alpha on 9 items of children and youth's psychosocial well-being

Reliability Statistics		
	Cronbach's Alpha	N of Items
	.784	9

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2. I was happy returning to school after lockdown.	.481	.761
3. I felt sad and isolated during the pandemic.	.624	.743
4. I missed being with my school mates in person.	.596	.744
6. I found it hard to concentrate during remote class.	.589	.744
7. I was quieter during online classes than I am in the classroom.	.419	.769
8. I was concerned about my family's health during the pandemic; it was on my mind.	.369	.777
33. I can sleep better now than during lockdown.	.325	.783
34. My sleep schedule stayed messed up after lockdown.	.439	.767
35. The lockdowns changed me somehow.	.411	.772

As depicted in **Table 9**, it is found that the value of Cronbach's alpha for the construct of leveraging of traditional and local knowledge, practices activities is nearly 0.8 ($\alpha = .798$) and it is considered good and acceptable reliability. Similar to the previous construct of children and youth's psychosocial well-being, Cronbach's alpha value of this construct might be improved by removing 2 items with the CITC below 0.3.

Table 9

Cronbach's Alpha on 13 items of leveraging of traditional and local knowledge, activities practices

Reliability Statistics

Cronbach's Alpha	N of Items
.798	13

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
9. I was happy to be able to participate more in my family's activities or livelihood	.477	.782
10. I had more time to be involved with my family's life.	.462	.782
11. I was more involved with local traditions/(Finnish option) activities during the pandemic.	.382	.788
12. I was able to learn more of my family's language during the pandemic.	.276	.798
13. I had more opportunities to spend time with cultural Elders and knowledge holders/ (Finnish option) older relatives during the pandemic.	.529	.775
14. I had more opportunity to participate in outdoor activities during the pandemic.	.329	.794
15. I had more time to participate in home-based activities and my community's culture/ (Finnish option) activities at home or in my neighbourhood during the pandemic.	.275	.798
16. Cultural, traditional or family activities support me and make me feel like I belong.	.521	.776
17. I think these family and community activities are important.	.461	.782
40. I still participate more in my family's traditional activities after the pandemic.	.430	.784
41. I feel now more connected with my family and its roots.	.492	.779
42. I feel that my family played a role in my recovery from the pandemic.	.462	.782
43. I want to keep participating in my family's cultural activities.	.518	.777

Table 10 presents the new Cronbach's alpha after eliminating items with low CITC. During the process, removing 2 items (#12 and #15) made another item (#14) reduce CITC below 0.3. By removing the additional item (#14), the Cronbach's alpha enhanced to 0.806, resulting in the final number for the construct of leveraging of traditional and local knowledge, activities practices becoming 10 items.

Table 10

Enhanced Cronbach's Alpha on 10 items of leveraging of traditional and local knowledge, activities practices

Reliability Statistics


Cronbach's Alpha	N of Items
.806	10

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
9. I was happy to be able to participate more in my family's activities or livelihood	.493	.789
10. I had more time to be involved with my family's life.	.429	.795
11. I was more involved with local traditions/ (Finnish option) activities during the pandemic.	.320	.806
13. I had more opportunities to spend time with cultural Elders and knowledge holders/ (Finnish option) older relatives during the pandemic.	.419	.798
16. Cultural, traditional or family activities support me and make me feel like I belong.	.475	.790
17. I think these family and community activities are important.	.458	.792
40. I still participate more in my family's traditional activities after the pandemic.	.527	.784
41. I feel now more connected with my family and its roots.	.568	.779
42. I feel that my family played a role in my recovery from the pandemic.	.558	.780
43. I want to keep participating in my family's cultural activities.	.594	.777

After the Cronbach's alpha reliability process, there are 10 questions showing insignificant correlation to their designed theme, suggesting eliminating them from the analysis. However, since those questions separately still hold their own value and information in a way of reflecting the perception of the students, the analyst takes this student voice into serious consideration and preserves them in an independent part, namely *Additional Insights Of The Students*.

All things considered, the analyst acknowledges that because of the dataset's non-normality and the research exploratory nature, there are still some limitations of reliability and validity of the research, especially when excluding missing values. Having said that, with all attempts of reliability and validity enhancement, with the core in triangulations and the combination of tests, the study still holds practical values for keeping the most naturalness, representativeness, and consistency of secondary student perception to some extent. Limitations will be discussed further in the *Chapter 5* of this paper.

2.6. Ethical Solutions

This research is conducted under permission of the Ethics committee of Lapland, University of Lapland. The University of Lapland is committed to the guidelines of the Finnish Advisory Board on Research Integrity (TENK, 2021) for promoting responsible conduct of research, and monitoring research integrity. The author and all research partners of the study have been working with a strong commitment to ethical principles, particularly in accordance with the Ethical Guidelines for Research Involving the Sámi People in Finland (Heikkilä et al., 2024). These guidelines establish essential ethical standards that ensure the research respects the rights, culture, self-determination, and freedom of the Sámi people. I hereby declare my full adherence to the following core sections of the guidelines:

1. **Mutual Communication and Inclusion:** I acknowledge the importance of respectful, reciprocal dialogue with the Sámi community and strive to establish trust-based relationships. I and my research colleagues have taken steps to ensure open and transparent communication with community members to facilitate meaningful participation in the research process.
2. **Assessment of Research Benefits and Harms:** I have carefully considered the potential impact of my research on the Sámi community and have taken steps to minimize any risks. I acknowledge the importance of Indigenous self-determination and freedom and have ensured that my research upholds the dignity and rights of all individuals involved.
3. **Recognition and Respect for the Sámi Society and Knowledge:** I and my research knowledge recognize the significance of Sámi traditional knowledge, cultural heritage, and social structures. Throughout the research process, I have taken measures to avoid burdening the community unnecessarily and have made efforts to understand existing research and archives before engaging with community members.
4. **Responsibility for Returning and Sharing Knowledge:** I commit to ensuring that the results of this research are understandable and accessible to the Sámi community in an accessible and culturally appropriate manner. The findings will be disseminated in ways that align with the principles of Indigenous data governance and respect community preferences for knowledge sharing.

This ethical commitment reflects my dedication to responsible and respectful research practices, aligning with the principles outlined in the Ethical Guidelines for Research Involving the Sámi People in Finland (2024).

3. EMPIRICAL FINDINGS

3.1. Experience of Educational Provision

In order to answer the sub-question 1: *How young people experienced education provision during the pandemic (both offline and online, analogue and digital), throughout lockdowns, and now in recovery?*, the author analysed a set of 14 questions in which 10 questions are about during the lockdown and four questions are about the recovery period.

During the Lockdown

The first theme of "*Experience of Educational Provision*" during the lockdown was assessed by 10 questions categorised in five subclusters: (1) remote learning facilitation; (2) teaching support; (3) digital competency; (4) digital engagement and (5) workload.

About the remote learning facilitation, the pandemic has prompted the organisation of teaching and learning in remote formats. Students were asked to rate their frequency of online learning participation on a Likert-type scale with five points (1=never, 2=seldom, 3=half of the time, 4=mostly, 5=always) ([Table 11](#)).

Table 11

Cross tabulation between online learning participation and device accessibility during the lockdown

		19. I had access to a computer, tablet or phone to use for school.							
		Yes		Sometimes		No		Total	
		Count	% of Total	Count	% of Total	Count	% of Total	Count	% of Total
18. During the pandemic, it was possible for me to attend class online.	Never	1	0.9%	0	0.0%	0	0.0%	1	0.9%
	Seldom	2	1.7%	1	0.9%	0	0.0%	3	2.6%
	Half of the time	8	6.9%	1	0.9%	0	0.0%	9	7.8%
	Mostly	21	18.1%	1	0.9%	0	0.0%	22	19.0%
	Always	79	68.1%	0	0.0%	2	1.7%	81	69.8%
Total		111	95.7%	3	2.6%	2	1.7%	116	100.0%

As seen in [Table 11](#), most of the students (N=81 or 69.8%) reported to “always” attend class online, which was followed by “mostly” (N=22 or 19%). A small proportion of respondents gave the answer of “half of the time” and “seldom” which is 7.8% and 2.6% respectively. Only 0.9% (or 1 respondent) rated “never”. For this case, the mean value is 4.54 and standard deviation is 0.817. When it comes to device accessibility, most students (N=111 or 95%) confirmed that they have access to a computer, tablet or

phone for learning purposes. Only 2.6% chose “sometimes” whilst 1.7% went for “no”. As presented in [Table 11](#), a cross tabulation between online learning participation and device accessibility resulted that most of the students (N=100 or 86.2%) confirmed their online possibility along with device accessibility during the pandemic.

With respect to teaching support ([Table 12](#)), when asked if they felt support from the teacher, most of the students (N=73 or 62.9%) provided positive feedback of “all the time” and “sometimes” while other 34.5% rated “normally, no” and “never”. Only 2.6% responded “at the beginning no, later yes”.

Table 12

Teaching support during the lockdown

			27. Did your school or classroom provide online help with homework after school during the pandemic?			
			Yes	No	I do not know	Total
20. During online school, I felt supported by the teacher.	Yes, all the time	Count	10	1	10	21
		% of Total	8.6%	0.9%	8.6%	18.1%
	Yes, sometimes	Count	13	7	32	52
		% of Total	11.2%	6.0%	27.6%	44.8%
	Normally no	Count	6	12	16	34
		% of Total	5.2%	10.3%	13.8%	29.3%
	Never	Count	1	3	2	6
		% of Total	0.9%	2.6%	1.7%	5.2%
	At the beginning no, later yes	Count	1	0	2	3
		% of Total	0.9%	0.0%	1.7%	2.6%
Total		Count	31	23	62	116
		% of Total	26.7%	19.8%	53.4%	100.0%

Moreover, students were asked to indicate if they noticed online support and facilitation for homework after class (1=yes, 2=no, and 3=I do not know) ([Table 12](#)). Interestingly, the dominant answer was “I do not know”, with 53.4% of responses (N=62). Also, the gap between the “yes” and “no” answers was quite close, at 26.7% (N=31) and 19.8% (N=23) respectively.

Digital competency ([Table 13](#)) is one of the most critical factors that impacts the students' remote learning process. Two types of five-point Likert-type scale were used to measure the self-evaluation of digital skills (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) as well as the frequency of their learning performance equally to normal conditions (1=never, 2=seldom, 3=half of the time, 4=mostly, 5=always).

According to the majority of statements (N=85 or 73.3%), on average, students regarded themselves sufficiently skilled in digital for the remote classes at the start of the pandemic. This followed by 19.8% of students considered themselves as “neutral” and only 6.8% perceived themselves as insufficiently skilled for online learning. These answers have a mean value of 4.14 and the standard deviation of 1.071.

For the item of how often the students see themselves do their homework as well as before the pandemic, students are more likely to evaluate their homework as equally well-performed (N=71 or 61.2%). The following answer was “half of the time”, accounting for 21.6%. The lowest rate is to “seldom” and “never”, at 10.3% and 6.9% respectively. The mean value for this item is 3.69 and the standard deviation is 1.219.

As can be seen in **Table 13**, a cross tabulation between two items of digital competency shows the significant proportion of students who both acquired digital skills before the pandemic and frequently performed their homework well (N=58 or 50%).

Table 13

Digital competency of students during the lockdown

			26. I could do my homework equally well during the pandemic.					
			Never	Seldom	Half of the time	Mostly	Always	Total
21. I think I had the digital skills to attend class online at the start of the pandemic.	Strongly disagree	Count	3	0	0	0	1	4
		% of Total	2.6%	0.0%	0.0%	0.0%	0.9%	3.4%
	Disagree	Count	0	0	1	3	0	4
		% of Total	0.0%	0.0%	0.9%	2.6%	0.0%	3.4%
	Neutral	Count	1	3	10	9	0	23
		% of Total	0.9%	2.6%	8.6%	7.8%	0.0%	19.8%
	Agree	Count	1	1	6	10	8	26
		% of Total	0.9%	0.9%	5.2%	8.6%	6.9%	22.4%
	Strongly agree	Count	3	8	8	12	28	59
		% of Total	2.6%	6.9%	6.9%	10.3%	24.1%	50.9%
Total	Count	8	12	25	34	37	116	
	% of Total	6.9%	10.3%	21.6%	29.3%	31.9%	100.0%	

Importantly, this group of students accounts for 71% of students who self-evaluate their performance as equally well during the pandemic (**Table 13**). It may deliver two indications. On one hand, it suggests that the students who are digitally skilled in advance are more likely to adapt to the remote learning setting. On the other hand, it signifies the unexpected challenges and the need of preparation for both students and educators when entering a new teaching - learning environment as protocols for

interaction, communication and culture have evolved, not to mention now we are just at the very initial phase of this online transition.

To assess the aspect of digital engagement during the Covid-19 and online learning, students were asked to rate their frequency of turning the camera in the remote lessons, and their agreement on sharing screens in the Breakout Rooms (**Table 14**). The 5-point Likert-type scale used to measure frequency was 1=never, 2=seldom, 3=half of the time, 4=mostly, 5=always, and to evaluate agreement was 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.

Table 14

Digital engagement towards turning on camera and sharing screen

			24. I liked "Breakout Rooms" and felt more comfortable sharing my screen there.					
			Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
23. During remote lessons, I felt comfortable turning on my camera.	Never	Count	21	1	11	1	3	37
		% of Total	18.1%	0.9%	9.5%	0.9%	2.6%	31.9%
	Seldom	Count	6	2	14	3	1	26
		% of Total	5.2%	1.7%	12.1%	2.6%	0.9%	22.4%
	Half of the time	Count	8	6	17	3	1	35
		% of Total	6.9%	5.2%	14.7%	2.6%	0.9%	30.2%
	Mostly	Count	4	1	6	2	0	13
		% of Total	3.4%	0.9%	5.2%	1.7%	0.0%	11.2%
	Always	Count	2	0	3	0	0	5
		% of Total	1.7%	0.0%	2.6%	0.0%	0.0%	4.3%
Total	Count	41	10	51	9	5	116	
	% of Total	35.3%	8.6%	44.0%	7.8%	4.3%	100.0%	

Most students did not feel comfortable turning on their camera in their online classes, accounting for 63 respondents or 54.3% that answered never or seldom. The answer “half of the time” regarding turning on their camera was answered by 30.2% (N=35) of the students (**Table 14**). A small number of students reported to “mostly” or “always” feel at ease to share their face online (N=18, or 15.5%). Mean value of this item is relatively low, around 2.34 with standard deviation of 1.164.

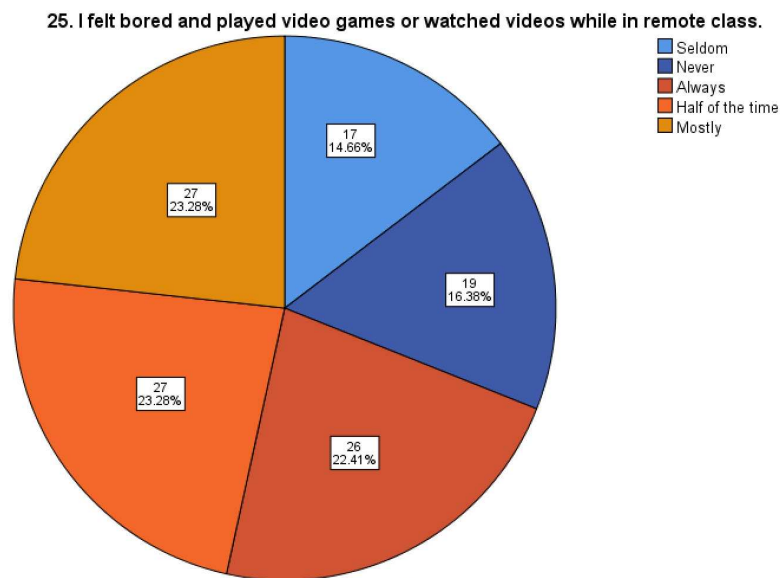
Students gave fairly low rates to their engagement for sharing screens in the Breakout Rooms (M=2.37, SD=1.169). The disagreement rate (44%) and neutral rate (44%) dominate the agreement rate (12.1%).

Also, the students were asked about boredom and playing video games or distraction of other digital activities during remote classes. As illustrated in **Figure 2**, it is worth noting that a high number of the respondents (N=80, 69%) reported their

boredom in remote classes and the involvement of extra activities such as playing video games and watching videos simultaneously.

Figure 2

Online learning while playing video games or watching videos

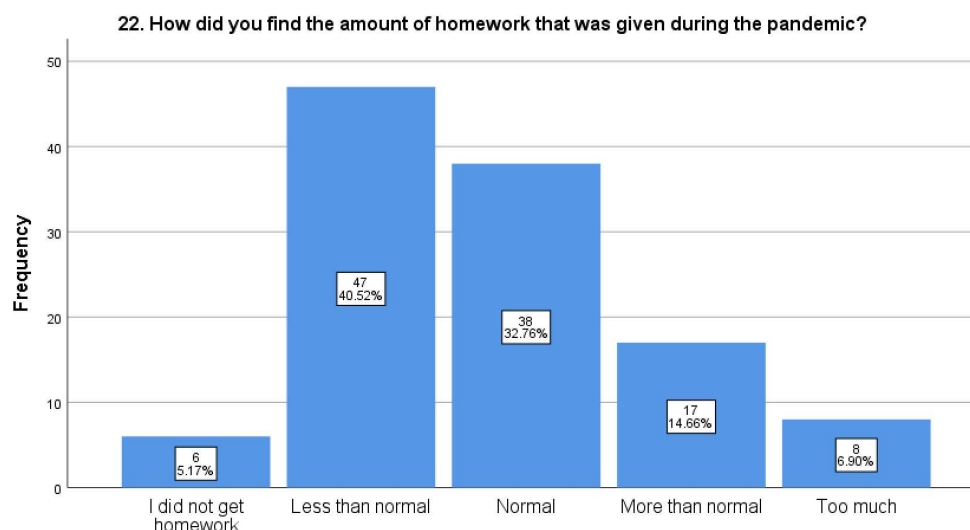


Due to non-normality distribution of variables, Spearman's rank correlation was computed to assess the relationship between discomfort to turning on the camera and distraction from digital games and video watching (**Figure 2**). There is no statistically significant correlation between the two variables, $r(116) = -.13$, $p = .139$. Please see a detailed report of this correlation test in [Appendix D](#).

In the matter of workload, depicted in **Figure 3**, the majority of respondents ($N=85$ or 74.28%) reported that the workload during the pandemic was “normal” or “less than normal”.

Figure 3

Workload during the pandemic



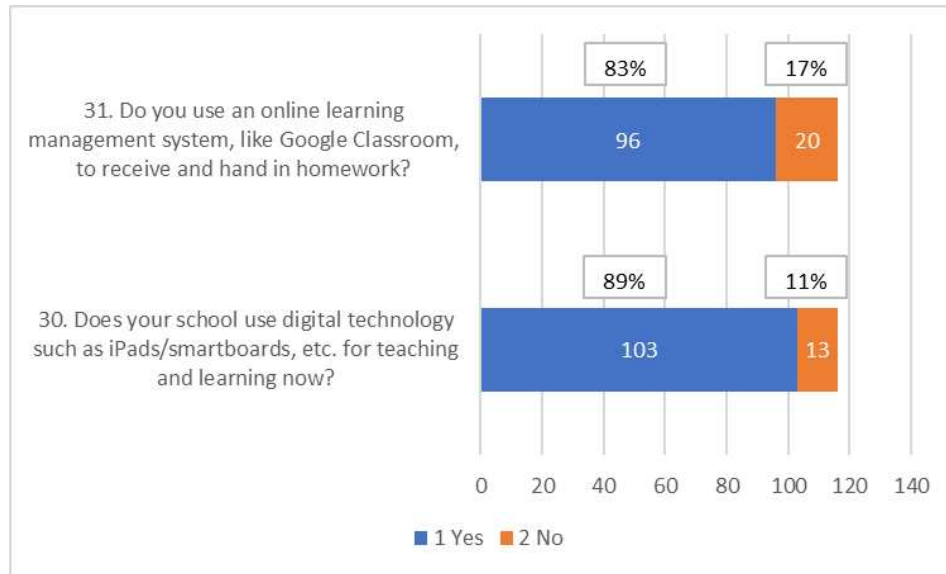
At the same time, as seen in **Figure 3**, 21.56% (or N=25) said that the workload was “more than normal” or “too much”. Only 5.17% (or N=6) declared to “not get homework”. The mean value of this response was 2.78 and standard deviation was 0.10.

Recovery Period

For the recovery period, four questions were examined. Two questions (i.e. yes vs. no) are related to the subcluster of *remote learning facilitation*, regarding the use of online learning management systems, such as Google Classroom to receive and hand in homework, and digital device use at school for teaching and learning (**Figure 4**).

Figure 4

Remote learning facilitation in the recovery period



The results (**Figure 4**) show that 89% of the respondents (N=103) confirmed that the school was continuing the application of digital technology in teaching and learning after the pandemic. This is consistent with the prior respondents of the item about device accessibility during the lockdown. Also, most students (N=96 or 83%) reported continuing to apply an online learning system such as Google classroom to receive and hand in homework. Concerning *digital engagement*, students were asked to give their answers on a Likert-scale with five points (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) on the matter if they wanted to keep some remote teaching practices in on-site classrooms. The result for this item was around average values (M=3.04, SD=1.197).

Regarding *digital competency* in the recovery period (**Table 15**), students were asked to self-evaluate their new skills acquired during the lockdown and still use it afterwards. They gave their answers on a Likert-type scale with five points (1=many, 2=some, 3=a couple, 4=one, 5=none).

Table 15

Digital competency in the recovery period

	N	Minimum	Maximum	Mean	Std. Deviation
29. I learned a new skill during lockdown and I still use it after the pandemic.	116	1	5	3.78	1.272
28. I wish some remote teaching practices would stay in classroom teaching.	116	1	5	3.04	1.197
Valid N (listwise)	116				

Results presented in **Table 15** show that the students admitted to learning a few new skills during the pandemic that could be used onward ($M=3.78$, $SD=1.272$).

Notably, 45.7% of the respondents ($N=53$) reported that they did not acquire new digital skills while 41.5% of this group ($N=22$) had also previously responded they already had digital skills at the start of the pandemic. This further corroborated the previous assertion made on the necessity of incorporating digital skills and other preparatory measures prior to and throughout the remote learning experience during the lockdown.

3.2. Children and Youth's Psychosocial Well-Being

To answer the sub-question 2: *“How has the COVID-19 pandemic impacted the emotional and psychosocial well-being of young people?”*, nine questions were investigated including six questions about during the lockdown and three questions in the recovery period. The students were answering on a Likert-type scale with five points (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

During the Lockdown

In general, the results showed that a fairly high number of the students did not feel sad and isolated during the lockdown ($N=60$ or 51.7%, $M=2.53$) and many of them also opposed to the idea of *“I was concerned about my family health”* ($N=74$ or 63.8%, $M=2.26$). Most of the students ($N=88$ or 75.8%) felt normal or happy returning to school ($M=3.27$, $SD=1.204$). Furthermore, the Spearman correlation between being happy returning to school and missing schoolmate in person was found to be $r(116) = .45$, $p = .000$, with a 99% confidence level, indicating a moderate positive association between the two variables (*for more detailed results, please refer to [Appendix F](#)*).

Moving to the next item, the students were asked if they found it hard to focus in the remote learning environment. Even though the mean of this item is 2.91, SD=1.420 indicating on average, the students did not find it hard to concentrate in the online class, the gap between negative and positive answers was slightly close (40.5% vs. 36.2% respectively, the neutral idea was 23.3%). Hence, it is safer to conclude a diverse result to this item.

Regarding the tendency to be quieter in online classes compared to on-site ones, 46.5% of respondents (N=54, M=3.53) agreed or strongly agreed. The descriptive statistics for this finding are presented in [Table 16](#).

Table 16

Children and youth's well-being during the lockdown

		2. I was happy returning to school after lockdown.	3. I felt sad and isolated during the pandemic.	4. I missed being with my school mates in person.	6. I found it hard to concentrate during remote class.	7. I was quieter during online classes than I am in the classroom.	8. I was concerned about my family's health during the pandemic; it was on my mind.
1 Strongly disagree	Count	14	26	13	27	8	48
	Table N %	12.1%	22.4%	11.2%	23.3%	6.9%	41.4%
2 Disagree	Count	14	34	10	20	11	26
	Table N %	12.1%	29.3%	8.6%	17.2%	9.5%	22.4%
3 Neutral	Count	31	30	21	27	43	18
	Table N %	26.7%	25.9%	18.1%	23.3%	37.1%	15.5%
4 Agree	Count	41	20	35	21	20	12
	Table N %	35.3%	17.2%	30.2%	18.1%	17.2%	10.3%
5 Strongly agree	Count	16	6	37	21	34	12
	Table N %	13.8%	5.2%	31.9%	18.1%	29.3%	10.3%
Total	Total N	116	116	116	116	116	116
	Mean	3.27	2.53	3.63	2.91	3.53	2.26
	Standard Deviation	1.204	1.168	1.316	1.420	1.205	1.365

This time, as shown in [Table 16](#), the negative responses (16.4%) were more distant to the positive ones and the neutral answers took 37.1%.

Recovery Period

In the recovery period, regarding physical health, the students' sleep quality has not improved in the recovery period for 40.5% of students (N=47) that stated strongly disagree and disagree in the survey regarding the question if they can sleep better now. At the same time, 36.2% (N=42) of the students did not seem to have any change in their sleep quality, as their response was neutral. The total mean for this question is 2.73 (SD=1.341) ([Table 17](#)).

Table 17*Children and youth's well-being in the recovery period*

		33. I can sleep better now than during lockdown.	34. My sleep schedule stayed messed up after lockdown.	35. The lockdowns changed me somehow.
1 Strongly disagree	Count	29	34	28
	Table N %	25.0%	29.3%	24.1%
2 Disagree	Count	18	17	10
	Table N %	15.5%	14.7%	8.6%
3 Neutral	Count	42	43	30
	Table N %	36.2%	37.1%	25.9%
4 Agree	Count	9	11	23
	Table N %	7.8%	9.5%	19.8%
5 Strongly agree	Count	18	11	25
	Table N %	15.5%	9.5%	21.6%
Total	Total N	116	116	116
	Mean	2.73	2.55	3.06
	Standard Deviation	1.341	1.267	1.458

Also presented in [Table 17](#), when asked if their sleep schedule stayed messed up after the lockdown, the students reported a significant proportion of “disagree” and “strongly disagree”, indicating the sleep schedule has improved for 51 respondents or 44%. These results suggest that to some extent, the lockdown time allowed students a longer time and more quality sleep. This is a very critical point, especially when considering students of this teenage age require more sleep for physical growth. With references to recognition of change in well-being, the result records a wide range of responses when the students were asked if the lockdowns changed them ($M=3.06$, $SD=1.458$).

3.3. Leveraging of Traditional and Local Knowledge, Activities and Practices

For the third question of: 3. “*How has the COVID-19 pandemic influenced young people's connection to traditional and local practices?*”, ten questions were designed including six questions about during the lockdown and four questions related to the recovery period. A five-point Likert scale was used for all the questions (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). The set of questions varies in two themes: (1) engagement with family, local knowledge and traditional practices; and (2) belief in family, local and traditional community.

During the Lockdown

To evaluate the engagement with the family, local knowledge and traditional practices during the lockdown, students rated their level of agreement with three statements that describe a variety of activities outside the class. As can be seen in [Table 18](#), students evaluate their engagement in different aspects of family, local knowledge, and traditional practices with a wide range depending on the subject of interaction.

Table 18

Engagement with the family, local knowledge and traditional practices during the lockdown

		10. I had more time to be involved with my family's life.	11. I was more involved with local traditions/ (Finnish option) activities during the pandemic.	13. I had more opportunities to spend time with cultural Elders and knowledge holders/ (Finnish option) older relatives during the pandemic.
1 Strongly disagree	Count	5	52	22
	Table N %	4.3%	44.8%	19.0%
2 Disagree	Count	10	30	16
	Table N %	8.6%	25.9%	13.8%
3 Neutral	Count	33	22	35
	Table N %	28.4%	19.0%	30.2%
4 Agree	Count	32	10	24
	Table N %	27.6%	8.6%	20.7%
5 Strongly agree	Count	36	2	19
	Table N %	31.0%	1.7%	16.4%
Total	Total N	116	116	116
	Mean	3.72	1.97	3.02
	Standard Deviation	1.124	1.071	1.332

Their levels of engagement ([Table 18](#)) are lowest in terms of traditional activities ($M=1.97$; $SD=1.071$) and quite average in spending time with older relatives ($M=3.02$, $SD=1.332$). These levels are highest when it comes to spending more time with family's life ($M=3.72$, $SD=1.124$) in which 58.6% of them ($N = 68$) agreed or strongly agreed.

When taking into account the belief towards family, local and traditional activities, the largest number of students report moderate levels of belief in the aspects of positive feeling and belongingness towards family or livelihood activities (the same $M=3.02$ for two items) ([Table 19](#)).

Table 19

Belief in the family, local knowledge and traditional practices during the lockdown

		9. I was happy to be able to participate more in my family's activities or livelihood	16. Cultural, traditional or family activities support me and make me feel like I belong.	17. I think these family and community activities are important.
1 Strongly disagree	Count	7	17	5
	Table N %	6.0%	14.7%	4.3%
2 Disagree	Count	14	14	8
	Table N %	12.1%	12.1%	6.9%
3 Neutral	Count	56	50	35
	Table N %	48.3%	43.1%	30.2%
4 Agree	Count	27	20	34
	Table N %	23.3%	17.2%	29.3%
5 Strongly agree	Count	12	15	34
	Table N %	10.3%	12.9%	29.3%
Total	Total N	116	116	116
	Mean	3.20	3.02	3.72
	Standard Deviation	.989	1.187	1.092

The ratings on the critical role of family and community are higher, accounting for $M=3.72$, with 58.6% agreed or strongly agreed (**Table 19**).

Recovery Period

Results presented in **Table 20** indicate that students reported average or below-average levels of engagement and belief in family, local knowledge, and traditional practices during the recovery period.

Table 20

Engagement and belief in the family, local knowledge and traditional practices in the recovery period

		40. I still participate more in my family's traditional activities after the pandemic.	41. I feel now more connected with my family and its roots.	42. I feel that my family played a role in my recovery from the pandemic.	43. I want to keep participating in my family's cultural activities.
1 Strongly disagree	Count	13	17	28	14
	Table N %	11.2%	14.7%	24.1%	12.1%
2 Disagree	Count	20	16	17	18
	Table N %	17.2%	13.8%	14.7%	15.5%
3 Neutral	Count	48	54	39	51
	Table N %	41.4%	46.6%	33.6%	44.0%
4 Agree	Count	23	16	16	21
	Table N %	19.8%	13.8%	13.8%	18.1%
5 Strongly agree	Count	12	13	16	12
	Table N %	10.3%	11.2%	13.8%	10.3%
Total	Total N	116	116	116	116
	Mean	3.01	2.93	2.78	2.99
	Standard Deviation	1.115	1.148	1.331	1.115

This trend was observed across all four items: desire to extend family's traditional activities ($M=3.01$), sense of family connection ($M=2.93$), family role in recovery ($M=2.78$), and desire to prolong participation in cultural activities ($M=2.99$) (**Table 20**). In most cases, the gap between positive and negative is not really big (around 10%). Thus, we can see the large proportion of neutral opinion (around 33.6-46.6%) was significant to impact the final results.

3.4. Additional Insights of the Students

From the original 43 items for quantitative analysis, there are 10 items that failed to show correlation with their originally designed construct. However, to some extent, those items still bring to the table much valuable information from the perception of the students, which is aligned with the purpose of this exploratory research. Those items thus are used as additional information to explore more angles of their experience instead of being interpreted as a representative of the main constructs.

Most students shared that they did not miss the lockdown ($M=1.99$, $SD=1.115$). More precisely, 73.3% disagreed or strongly disagreed with the item (“*I miss the lockdown time*”) while 14.7% stayed neutrally and 12.1% responded positively. Interestingly, within the group of students who answered “disagree” and “strongly disagree” with the idea of staying home and attending remote class ($N=18$ or 15.5%), 77.8% of them ($N=14$) answered positively towards missing being with schoolmates in

person (see this cross tabulation in [Appendix E](#)). Even though the rate of being happy returning to school was generally high, the respondents still supported staying home and attending remote classes ($M=3.75$, $SD=1.171$), indicating that the students acknowledged the convenience and benefits of online setting to a certain degree.

Students also reported low levels in engagement with learning the family's language and participation in family and neighbourhood activities ($M=2.05$ and 2.91 respectively). On the contrary, outdoor activities received averagely positive results ($M=3.43$, $SD=1.314$). [Table 21](#) depicts the results in more detail.

Table 21

Students' additional insights about the time of during the lockdown

		1. I miss the lockdown times.	5. I liked staying home and attending remote classes.	12. I was able to learn more of my family's language during the pandemic.	14. I had more opportunity to participate in outdoor activities during the pandemic.	15. I had more time to participate in home-based activities and my community's culture/ (Finnish option) activities at home or in my neighbourhood during the pandemic.
1 Strongly disagree	Count	50	6	59	13	17
	Table N %	43.1%	5.2%	50.9%	11.2%	14.7%
2 Disagree	Count	35	12	11	15	24
	Table N %	30.2%	10.3%	9.5%	12.9%	20.7%
3 Neutral	Count	17	25	34	28	44
	Table N %	14.7%	21.6%	29.3%	24.1%	37.9%
4 Agree	Count	10	35	5	29	14
	Table N %	8.6%	30.2%	4.3%	25.0%	12.1%
5 Strongly agree	Count	4	38	7	31	17
	Table N %	3.4%	32.8%	6.0%	26.7%	14.7%
Total	Total N	116	116	116	116	116
	Mean	1.99	3.75	2.05	3.43	2.91
	Standard Deviation	1.115	1.171	1.236	1.314	1.227

Regarding the recovery period, most respondents shared that they are now back to normal after the pandemic ($N=87$ or 75% , $M=4.18$, $SD=1.220$) with responses strongly agree or agree, betokening their recognition of change after the pandemic ([Table 22](#)).

Table 22

Students' additional insights about the time of recovery

		32. I feel I am back to normal after the pandemic.	36. I made new friends online through video games during the pandemic and we still keep in contact.	37. I formed the habit of using social media/videogames/TV a lot during the pandemic and I still do.	38. I spent more time with family members during the pandemic and I still do.	39. I am more active now than during the pandemic.
1 Strongly disagree	Count	6	56	21	14	15
	Table N %	5.2%	48.3%	18.1%	12.1%	12.9%
2 Disagree	Count	9	19	16	18	9
	Table N %	7.8%	16.4%	13.8%	15.5%	7.8%
3 Neutral	Count	14	21	32	44	28
	Table N %	12.1%	18.1%	27.6%	37.9%	24.1%
4 Agree	Count	16	7	23	30	31
	Table N %	13.8%	6.0%	19.8%	25.9%	26.7%
5 Strongly agree	Count	71	13	24	10	33
	Table N %	61.2%	11.2%	20.7%	8.6%	28.4%
Total	Total N	116	116	116	116	116
	Mean	4.18	2.16	3.11	3.03	3.50
	Standard Deviation	1.220	1.381	1.375	1.118	1.329

In fact, most respondents recognised their activeness more than the lockdown ($M=4$, $SD=1.329$) (Table 22). Having said that, the result records a wide range of responses when the students were asked if they formed a new habit of using digital tools ($M=3.11$, $SD=1.375$). As to social connection, only 17.2% made new friends online and still keep in touch ($M=2.16$, $SD=1.381$). Also, the additional bonding with family is at moderate level ($M=3.03$, $SD=1.118$).

3.5. Student Voice

In the final part of the questionnaire, students were invited to answer three open-ended questions: (1) how they found their life was different at that moment of being asked (the recovery period) from the pre-pandemic days; (2) what they missed most about the pre-pandemic times; and (3) what they missed about the life during the pandemic. The systematic thematic analysis process developed by Naeem et al. (2023) was applied, including five stages. In the first stage, all the answers from each question were transcribed and familiarised ($N=97$ for question 1; $N=93$ for question 2; and $N=102$ for question 3). Next, keywords that encapsulates participants' experience or perception were identified and selected. The third stage refers to coding, in which the keywords were coded using inductive codes and then rated with a scale of two or three points.

With question 1, in which codes could deliver both positive and negative meaning, a scale with three points was applied (1=negative, 2=neutral/not mentioned, 3=positive). With the other two questions, a scale with two points was applied to mark the presence of the word in the answer (2=not mentioned, 3=mentioned). The reason for evaluating codes is that the partly quantitative application of frequency analysis can be helpful to support the qualitative interpretation stage by revealing which matters (codes) are prominent to the participants. The fourth stage involves organising codes into meaningful and deductive groups that share the patterns or relationship and are connected to the research question and data. In the final step, namely conceptualisation, all deductive themes were interpreted to answer the three independent questions from the questionnaire and to see in what pattern meanings that those themes, as a whole, link the research questions and the data.

To the 1st question of how the students' life was different at the recovery period from the pre-pandemic times, results presented in **Table 23** display 12 codes (also known as topics) described by the students. The most frequent answer was "activeness" (26.8%) in which the proportion between positive and negative opinions was 84.62% and 15.38% respectively. The following descriptive responses demonstrate positive responses: "*I am more active and social*", "*more active and productive*", "*I exercise outside more*", "*I now train 12 times a week compared to 8 before*". Examples for negative responses are: "*I'm not as outgoing or energetic anymore*", "*I'm more shy/introverted*", "*I go out less and spend less time with my friends.*" The phrases "active", "exercise", and "outside" emerged the most in those answers.

Table 23

Thematic analysis: Frequency of Codes - Most mentioned topics students described the difference in their life between pre-pandemic and the current state

A44: "How is your life different now from the pre-pandemic days? List at least two ways."

Codes	Valid N	Mentions (Positive + Negative)	% Mentions on Valid N	% Positive Mentions	% Negative Mentions	Themes
A44.01_Activeness	97	26	26.80%	84.62%	15.38%	Physical & psychosocial well-being
A44.07_Friends & sociality	97	19	19.59%	84.21%	15.79%	Community interaction
A44.10_Outdoor vs. indoor	97	18	18.56%	72.22%	27.78%	Conditions & environment
A44.04_Feeling	97	12	12.37%	41.67%	58.33%	Physical & psychosocial well-being
A44.05_Freedom	97	10	10.31%	80.00%	20.00%	Conditions & environment
A44.08_Maturity	97	9	9.28%	100.00%	0.00%	Physical & psychosocial well-being
A44.12_Others	97	7	7.22%	28.57%	71.43%	None
A44.02_Concerns about self and family's health	97	4	4.12%	100.00%	0.00%	Physical & psychosocial well-being
A44.06_Effective learning	97	4	4.12%	100.00%	0.00%	Conditions & environment
A44.11_Sleeping	97	4	4.12%	25.00%	75.00%	Physical & psychosocial well-being
A44.03_Digital engagement	97	3	3.09%	66.67%	33.33%	Conditions & environment
A44.09_Money	97	1	1.03%	0.00%	100.00%	Conditions & environment
All-topic Mentions		117	120.62%			

The next prominent responses were “friends & sociality” (19.59%), “outdoor vs. indoor” (18.56%), and “feeling” (13.40%). In terms of “friend & sociality”, students shared more positive responses (84.21%), such as “*I see more friends than I did remotely*”, “*I have more friends and I appreciate it*”, “*I interact with people more*”, “*I'm much more social when I can be face to face*”. On the other hand, students also shared: “*Before the pandemic I had a lot of friends but now I feel a lot of fear of being alone and abandoned and I don't have many friends*”, “*I go out less and spend less time with my friends*”. With respect to “outdoor vs. indoor”, 72% of this topic's answers was positive. Illustrative responses are “*You don't have to be at home and can be at school*”, “*I am not confined to four walls*”. However, some students admitted their reference to be indoor, such as “*it was much nicer to be home all the time and I don't want to ... back to school*”, “*I'm a little more antisocial and maybe not as confident*”. Apart from two former topics, “feeling” received more negative responses (58.33%). Examples for those are: “*I got more depressed after the pandemic ended*”, “*people are cautious. Everything is still staggered*”, “*Well, it's annoying to be at school all the time*”.

Students also perceived “freedom” as one of the differences of their life (80% positive opinions, e.g. “*No need to wear a mask and the halls are not closed*”, “*No need for a mask and freer*”, “*no restrictions on movement*”). “Maturity” is also mentioned with 100% positive opinion (“*I am older and wiser*”, “*more responsibility*”). There are three topics that were 100% positive, including “concerns about self and family's health” (“*I see my grandparents more. I am more careful about being exposed to germs. I wash my hands more often.*”), “effective learning” (“*learning will be more efficient than during the pandemic*”), and “digital engagement” (66.67% positive, “*I look at the phone more*”). The rest includes some minor topics encompassing “sleeping” (65%

negative, *“I don't fall asleep early anymore and wake up after about 4 hours and stay up all night.”*) and “money” (*“prices have skyrocketed for my own needs”*).

Altogether, for this question about differences between the current time and pre-pandemic, students noticed the physical and psychosocial well-being in which physical activities and feeling played a critical role while sleeping is reported to be a problem in some certain cases. Also, the social interaction with friends is equally crucial for their living sakes. The last theme, namely conditions and environment, was dominated by the opinions about the balance between being indoor versus outdoor along with the freedom in time management and time for other life activities besides studying.

Rounding up the matters of the question 2 about what the students missed the most in life before the pandemic, the results once again, enhance the question 1's findings, when the top three mentioned topics were “feeling” of carefree (living *“without worries”*), “friends”, and more “outdoor” activities. In many cases, the word choice of “carefree” was explained as their recognition of maturity: *“I was so much younger before the pandemic that I don't have much to look forward to”*. The coded topics of “concern about health” (for example, *“there was no need to fear the disease”*) and “sleeping” (an illustrative phrase: *“long sleep and relaxed school like back then”*) continually make their appearance on the report. The minor topics involve “digital engagement”, “hobbies”, “money” and “freedom”. A more detailed analysis is presented in [Table 24](#).

Table 24

Thematic analysis: Frequency of Codes - Student voice on what students miss most about life in pre-pandemic times

A45: "What do you miss most about life in pre-pandemic times?"

Codes	Valid N	Mentions	% Mentions on Valid N	Themes
A45.05_Feeling	93	8	8.60%	Physical & psychosocial well-being ▼
A45.04_Friends & Sociality	93	7	7.53%	Community interaction ▼
A45.09_Outdoor vs. Indoor	93	7	7.53%	Conditions & environment ▼
A45.07_Maturity	93	5	5.38%	Physical & psychosocial well-being ▼
A45.01_Concerns about self and family's health	93	4	4.30%	Physical & psychosocial well-being ▼
A45.10_Sleeping	93	4	4.30%	Physical & psychosocial well-being ▼
A45.02_Digital Engagement	93	3	3.23%	Conditions & environment ▼
A45.06_Hobbies	93	3	3.23%	Physical & psychosocial well-being ▼
A45.08_Money	93	3	3.23%	Conditions & environment ▼
A45.03_Freedom	93	2	2.15%	Conditions & environment ▼
A45.11_Others	93	0	0.00%	None ▼
All-topic Mentions		46	49.46%	

In naming what the students missed the most about the pandemic times, our data in **Table 25** show that the most frequent topics go to “distance learning”, “sleeping”, “being at home”, and “freedom & more time”.

Table 25

Thematic analysis: Frequency of Codes - Student voice on what students miss most about life during the pandemic

A46: "What do you miss about life during the pandemic?"

Codes	Valid N	Mentions	% Mentions on Valid N	Themes
A46.04_Distance learning	102	16	15.69%	Conditions & environment ▼
A46.09_Sleeping	102	16	15.69%	Physical & psychosocial well-being ▼
A46.01_Being at home	102	12	11.76%	Conditions & environment ▼
A46.07_Freedom & more time	102	10	9.80%	Conditions & environment ▼
A46.06_Feeling of relaxation	102	9	8.82%	Physical & psychosocial well-being ▼
A46.08_Friends & sociality	102	6	5.88%	Community interaction ▼
A46.10_Others	102	5	4.90%	None ▼
A46.02_Concerns about self and family's health	102	2	1.96%	Physical & psychosocial well-being ▼
A46.03_Digital engagement	102	2	1.96%	Conditions & environment ▼
A46.05_Family bonding	102	2	1.96%	Community interaction ▼
All-topic Mentions		80	78.43%	

The four topics are connected to each other when the pandemic urged the use of remote learning strategy as well as more flexibility for students in terms of time and control to learn. This following response illustrates the idea: [I miss] “*distance learning sometimes and the freedom to do your homework at any time and even go for a run in the morning*”. Regarding the topic of “sleeping”, it is important to note that since the age of the respondent was 16, sleeping quality and schedule is crucial for their natural

development. In such a way that they described the pandemic and online learning as “*more time to sleep*”, in one way, it helps explain and confirm the finding in the previous quantitative questionnaire about sleeping schedule and quality. In another way, this result reflects the needs of quality sleep and sleeping schedule in the student’s life and for their effective learning in general.

4. DISCUSSION

This study sought to provide the insights of the Covid-19 pandemic's impact towards the educational experience, psychological well-being and traditional and local practices of the students. From 116 secondary students (63.74%) in Lapland who gave consent and valid responses about the Covid-19 lockdown and recovery period times. Main results include six main points:

Students were organised to attend online classes and had access to computers, tablets or phones for learning purposes (86.2%). Remote learning facilitation along with the use of online educational systems such as Google classroom remained in use after the pandemic.

On average, students mostly described themselves as sufficiently competent in digital skills for remote classes (73.3%). Nearly half of them agreed to acquire some new skills after remote learning time (44.8%). Students' self-evaluation of their homework was more likely to be well-performed as before the pandemic (61.2%). They received support from teachers (62.9%), but many of them did not notice online help with homework after school (53.4%). Moreover, nearly three fourths of students indicated their learning workload was the same or even less than on-site classes. This is in contrast with the increasing workload of other European countries on average, reported in the study of Doolan et al. (2021).

About online experience, the majority of students reported discomfort of turning on cameras and sharing screens in the Breakout rooms. Even though a considerable percentage of students reported boredom in class with distraction from games and videos (69%), there is no statistically significant correlation found between it with the discomfort of turning on cameras. There was another study of Castelli and Sarvary (2021) examining the reason behind students' refusing to turn on the cameras. The most frequent reason for that situation was being concerned about personal appearance. Thus, the authors suggested strategies to encourage but not force while promoting equity and inclusion in online classrooms. In general, this research findings are in line with the previous results from Salmela-Aro and Lavonen (2023) to the extent that Finland technically conducted quite a good switch to online teaching-learning compared to other countries, but there still existed some challenges in emotional and experiential aspects.

The majority of students shared that they did not miss the lockdown (73.3%), did not feel sad or isolated (51.7%) and were not concerned about their family's health (63.8%). Most students felt normal or happy returning to school (75.8%), more likely because they missed being with their schoolmates in person. Students' opinions were diverse on the matter of concentration in online classrooms, but they are more likely admitted to being quieter in remote learning compared to onsite classes. This result on concentration is different from the findings of Walters et al. (2021), in which they found the strong impact of online learning on British secondary students' concentration, compared to on-site classrooms.

The results of this study highlighted the emergence of physical well-being in students' lives besides psychosocial well-being. More precisely, students' answers in both close-ended and open-ended data indicated that the Covid-19 had the benefits of allowing them more time to sleep. This result is also aligned with the study of Doolan et al. (2021) in the higher educational levels in other European countries, thus, it can be an interesting aspect for further study. Thematic analysis explored the student's voice on the importance of physical activities ("activeness" and "outdoor" theme) as well as sleeping quality in children's well-being. As also revealed by the students, bonding with family, new habits and changes after lockdown were all at moderate levels.

Out of all aspects of traditional and local practices, only family activities received high frequencies in students' involvement during the pandemic. Even though students on average recognised the critical role of family and cultural practices (58%), the levels of willingness to keep participating in family and cultural activities as well as connection feeling with family roots were still low. At this point, it is important to consider the proportion of neutral answers, as they indicate the need to elaborate on this topic to see whether or not traditional knowledge and activities received little attention from all parties: students, parents, educators and community.

5. CONCLUSION, LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDY

As has been demonstrated in this paper, the Covid-19 brought up challenges in urging the change of teaching learning strategy and environment. Deep learning framework welcomes and involves learning conditions, learning partnership, and radical collegiality considering students as the agent of change. This study contributes to the said knowledge in such a way of giving insights of how students perceived the impact of the pandemic to their living and learning in three different critical factors and in two different periods of time.

To the research question, this study found that Covid-19 has impacted young people's educational experiences, psychosocial well-being, and engagement with traditional and local practices from its onset to the recovery phase. Interestingly, what knowledge the pandemic brought to the table is more fruitful than what it took. In educational experiences, it introduced a clearer picture with both sides of online learning compared to the pre-pandemic time. On one hand, online learning provided students with more time, flexibility, and productivity to some extent. On another hand, remote design still has not replaced all critical aspects of traditional design. Hence, many factors need to be taken into account when designing the teaching plan. Those factors are digital competency preparation for the students, peer interactions, and teaching supports. A blended teaching-learning could be a good direction to utilise the good and mitigate the bad sides of both platforms. Next, there is evidence about the need of sleeping quality, physical activeness, and social interaction to foster psychosocial well-being. Students demand to sleep more and do outside activities with peers. Furthermore, the study findings called for more attention to local and traditional knowledge. Even though students were aware of the critical role of this construct, the engagement and willingness to further engage to their family, local knowledge and activities were somehow not commensurate. Compared to the constructs of learning experience and psychosocial well-being, leveraging of traditional and local knowledge and practices received very slight fluctuation from the onset and the recovery period of the pandemic. Last but not least, this study also reflects the role of students' voice in building teaching strategy and later criteria for evaluation. The challenges students report do reveal the gap between the switch from on-site to online teaching-learning

design. They do own their voice and this source is fruitful enough to be included in the educational plan for recovery, resilience, and renewal, from the middle levels of teaching plan, school direction to the top level of national policies and enhancements.

This study has some potential limitations. The first one is the scope of the study. Each of the three topics (experience of educational provision, children psychological well-being, and traditional and local practices) is complex with many sub-facets to examine, not to mention two dimensions of before and after the pandemic. Thus, balancing between covering those multilayer subjects and keeping simple questionnaires for participants might lead to the shortage of collected data for deeper inferential analysis such as correlations among aspects or differences between participant's characteristics. Future studies are recommended to be structured in a series of research (e.g. topic by topic) or longitudinal research of the same group over a long period of time.

Secondly, the analyst acknowledges that the gap of translation from Finnish to English might increase chances of missing values, or missing the meaning, especially when conducting thematic analysis. Also, at the stage of transcription, the analyst recognised some special situations when the students were not confident with her or his Finnish, and it then was counted as a missing value.

Thirdly, the method of Listwise Deletion, though providing simplicity, consistency, and adaptation to the research purposes, still implicitly holds the risk of losing the data power of bigger sample size. Even though a combination of Little's MCAR test, Chi-Square test, and Mann-Whitney U test all suggest no significant difference between missing data and observed variables, they are not absolute methods to confirm MCAR, especially in non-normality. Further studies with more inferential analysis are suggested to the method of Multiple Imputation for better validity and reliability.

Last but not least, the questionnaire was in the construction stage and Cronbach's alpha suggested adjustments in the construct of children and youth psychosocial well-being. Also, the construct of experience of educational well-being was recommended to enhance in order to apply validity and reliability tests in future study. A pilot test is good advice for developing questionnaires for more complete (Daud et al., 2018).

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APPENDIX A

Table 26. Normality Test on the Questionnaire

Normality test on data from 43 questions (N=116)

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
1. I miss the lockdown times.	0.244	116	0.000	0.81	116	0.000
2. I was happy returning to school after lockdown.	0.22	116	0.000	0.891	116	0.000
3. I felt sad and isolated during the pandemic.	0.194	116	0.000	0.9	116	0.000
4. I missed being with my school mates in person.	0.232	116	0.000	0.848	116	0.000
5. I liked staying home and attending remote classes.	0.214	116	0.000	0.863	116	0.000
6. I found it hard to concentrate during remote class.	0.143	116	0.000	0.886	116	0.000
7. I was quieter during online classes than I am in the classroom.	0.203	116	0.000	0.874	116	0.000
8. I was concerned about my family's health during the pandemic; it was on my mind.	0.236	116	0.000	0.819	116	0.000
9. I was happy to be able to participate more in my family's activities or livelihood	0.243	116	0.000	0.888	116	0.000
10. I had more time to be involved with my family's life.	0.183	116	0.000	0.872	116	0.000
11. I was more involved with local traditions/(Finnish option) activities during the pandemic.	0.265	116	0.000	0.815	116	0.000
12. I was able to learn more of my family's language during the pandemic.	0.311	116	0.000	0.776	116	0.000
13. I had more opportunities to spend time with cultural Elders and knowledge holders/ (Finnish option) older relatives during the pandemic.	0.167	116	0.000	0.898	116	0.000
14. I had more opportunity to participate in outdoor activities during the pandemic.	0.185	116	0.000	0.884	116	0.000
15. I had more time to participate in home-based activities and my community's culture/ (Finnish option) activities at home or in my neighbourhood during the pandemic.	0.205	116	0.000	0.901	116	0.000
16. Cultural, traditional or family activities support me and make me feel like I belong.	0.227	116	0.000	0.895	116	0.000
17. I think these family and community activities are important.	0.186	116	0.000	0.873	116	0.000
18. During the pandemic, it was possible for me to attend class online.	0.41	116	0.000	0.618	116	0.000
19. I had access to a computer, tablet or phone to use for school.	0.536	116	0.000	0.2	116	0.000
20. During online school, I felt supported by the teacher.	0.255	116	0.000	0.866	116	0.000
21. I think I had the digital skills to attend class online at the start of the pandemic.	0.298	116	0.000	0.773	116	0.000

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
22. How did you find the amount of homework that was given during the pandemic?	0.239	116	0.000	0.875	116	0.000
23. During remote lessons, I felt comfortable turning on my camera.	0.193	116	0.000	0.874	116	0.000
24. I liked "Breakout Rooms" and felt more comfortable sharing my screen there.	0.265	116	0.000	0.828	116	0.000
25. I felt bored and played video games or watched videos while in remote class.	0.174	116	0.000	0.889	116	0.000
26. I could do my homework equally well during the pandemic.	0.213	116	0.000	0.864	116	0.000
27. Did your school or classroom provide online help with homework after school during the pandemic?	0.338	116	0.000	0.722	116	0.000
28. I wish some remote teaching practices would stay in classroom teaching.	0.227	116	0.000	0.893	116	0.000
29. I learned a new skill during lockdown and I still use it after the pandemic.	0.289	116	0.000	0.807	116	0.000
30. Does your school use digital technology such as iPads/smartboards, etc. for teaching and learning now?	0.526	116	0.000	0.365	116	0.000
31. Do you use an online learning management system, like Google Classroom, to receive and hand in homework?	0.503	116	0.000	0.457	116	0.000
32. I feel I am back to normal after the pandemic.	0.361	116	0.000	0.702	116	0.000
33. I can sleep better now than during lockdown.	0.188	116	0.000	0.876	116	0.000
34. My sleep schedule stayed messed up after lockdown.	0.199	116	0.000	0.872	116	0.000
35. The lockdowns changed me somehow.	0.163	116	0.000	0.871	116	0.000
36. I made new friends online through video games during the pandemic and we still keep in contact.	0.281	116	0.000	0.782	116	0.000
37. I formed the habit of using social media/videogames/TV a lot during the pandemic and I still do.	0.149	116	0.000	0.892	116	0.000
38. I spent more time with family members during the pandemic and I still do.	0.212	116	0.000	0.907	116	0.000
39. I am more active now than during the pandemic.	0.198	116	0.000	0.866	116	0.000
40. I still participate more in my family's traditional activities after the pandemic.	0.212	116	0.000	0.908	116	0.000
41. I feel now more connected with my family and its roots.	0.239	116	0.000	0.888	116	0.000
42. I feel that my family played a role in my recovery from the pandemic.	0.176	116	0.000	0.889	116	0.000
43. I want to keep participating in my family's cultural activities.	0.227	116	0.000	0.901	116	0.000

a. Lilliefors Significance Correction

APPENDIX B

Figure 5. Overall Summary of Missing Values

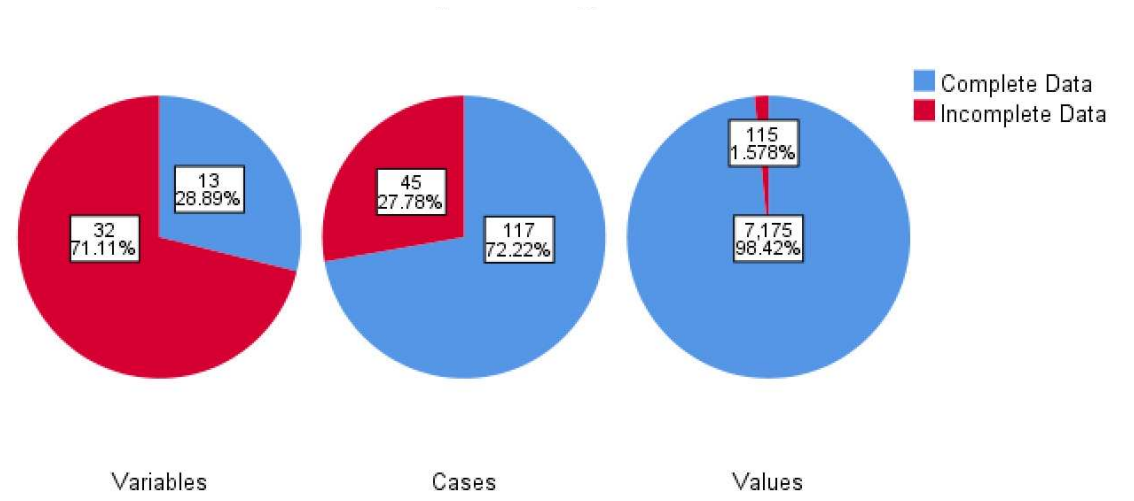
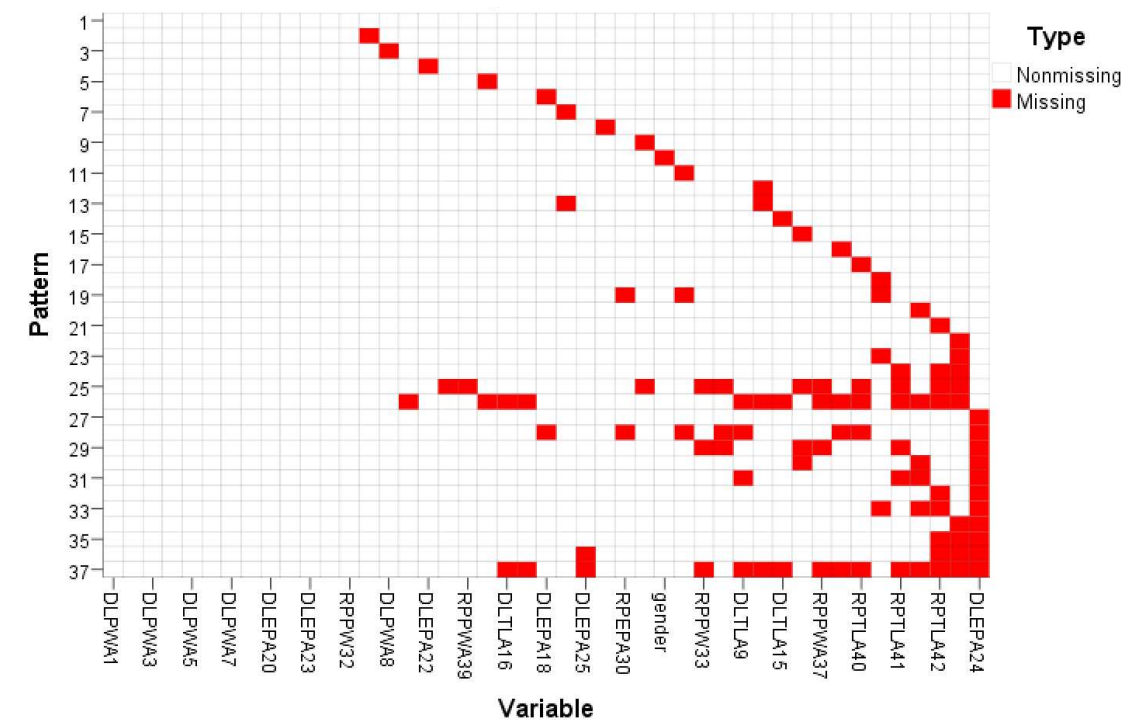
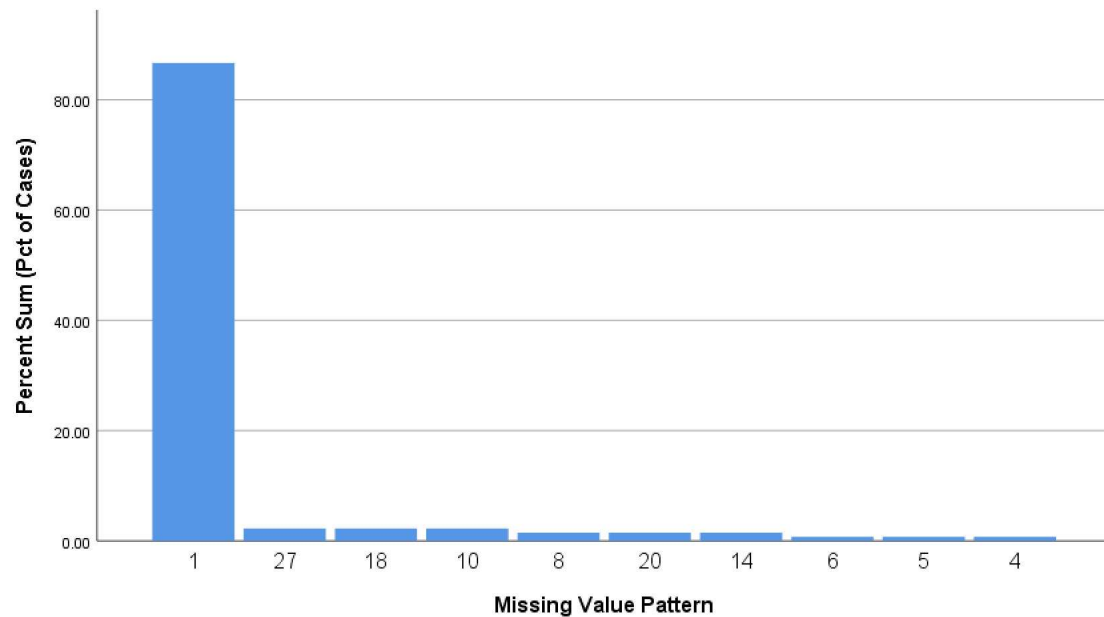


Figure 6. Missing Value Patterns Charts





The 10 most frequently occurring patterns are shown in the chart.

APPENDIX C

**Table 27. Comparing Missing Values and Continuous Variables:
Mann-Whitney U Test**

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
8. I was concerned about my family's health during the pandemic; it was on my mind.	316	344	-1.03	0.303
9. I was happy to be able to participate more in my family's activities or livelihood	390	7176	-0.187	0.852
10. I had more time to be involved with my family's life.	394	422	-0.136	0.892
11. I was more involved with local traditions/(Finnish option) activities during the pandemic.	398	426	-0.093	0.926
12. I was able to learn more of my family's language during the pandemic.	372.5	7158.5	-0.398	0.691
13. I had more opportunities to spend time with cultural Elders and knowledge holders/ (Finnish option) older relatives during the pandemic.	390	7176	-0.18	0.858
15. I had more time to participate in home-based activities and my community's culture/ (Finnish option) activities at home or in my neighbourhood during the pandemic.	381.5	409.5	-0.278	0.781
16. Cultural, traditional or family activities support me and make me feel like I belong.	382	7168	-0.276	0.783

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
17. I think these family and community activities are important.	398	426	-0.091	0.928
18. During the pandemic, it was possible for me to attend class online.	386.5	7172.5	-0.264	0.792
22. How did you find the amount of homework that was given during the pandemic?	375	403	-0.357	0.721
24. I liked "Breakout Rooms" and felt more comfortable sharing my screen there.	397.5	425.5	-0.1	0.921
25. I felt bored and played video games or watched videos while in remote class.	264.5	7050.5	-1.581	0.114
26. I could do my homework equally well during the pandemic.	379.5	407.5	-0.3	0.764
28. I wish some remote teaching practices would stay in classroom teaching.	377	405	-0.332	0.74
29. I learned a new skill during lockdown and I still use it after the pandemic.	339.5	367.5	-0.77	0.441
33. I can sleep better now than during lockdown.	324.5	352.5	-0.923	0.356
34. My sleep schedule stayed messed up after lockdown.	325	7111	-0.922	0.356
35. The lockdowns changed me somehow.	330	358	-0.85	0.395
36. I made new friends online through video games during the pandemic and we still keep in contact.	351	7137	-0.638	0.524
37. I formed the habit of using social media/videogames/TV a lot during the pandemic and I still do.	332	360	-0.828	0.408
38. I spent more time with family members during the pandemic and I still do.	391	7177	-0.171	0.864
39. I am more active now than during the pandemic.	353	7139	-0.597	0.551
40. I still participate more in my family's traditional activities after the pandemic.	340.5	7126.5	-0.749	0.454
41. I feel now more connected with my family and its roots.	368.5	396.5	-0.433	0.665
42. I feel that my family played a role in my recovery from the pandemic.	345	373	-0.688	0.491
43. I want to keep participating in my family's cultural activities.	406	7192	0	1

a Grouping Variable: Cases have missing data

Table 28. Comparing Missing Values and Categorical Variables: Chi-Square Test

	Pearson Chi-Square		
	Value	df	Asymptotic Significance (2-sided)
Gender	0.268	2	0.875
Age	0.044	1	0.834
19. I had access to a computer, tablet or phone to use for school.	3.921	2	0.141
30. Does your school use digital technology such as iPads/smartboards, etc. for teaching and learning now?	0.18	1	0.671
31. Do you use an online learning management system, like Google Classroom, to receive and hand in homework?	0.04	1	0.841

APPENDIX D

Table 29. Spearman's Rank Correlation Between Item 2 & 4

Spearman's rank correlation coefficient results between "During the remote lessons, I felt comfortable turning on my camera" and "I felt bored and played video games or watched videos while in the remote class"

		2. I was happy returning to school after lockdown.	4. I missed being with my school mates in person.
Spearman's rho	2. I was happy returning to school after lockdown.	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
		N	116
	4. I missed being with my school mates in person.	Correlation Coefficient	.447**
		Sig. (2-tailed)	.000
		N	116

** . Correlation is significant at the 0.01 level (2-tailed).

APPENDIX E

Table 30. Cross Tabulation Between Item 4 & 5

Cross tabulation between “I liked staying home and attending remote classes” and “I missed being with my schoolmates in person”

			5. I liked staying home and attending remote classes.					Total
			1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree	
4. I missed being with my schoolmates in person.	1 Strongly disagree	Count	1	0	0	3	9	13
		% within 5. I liked staying home and attending remote classes.	16.7%	0.0%	0.0%	8.6%	23.7%	11.2%
		% of Total	0.9%	0.0%	0.0%	2.6%	7.8%	11.2%
	2 Disagree	Count	0	0	2	5	3	10
		% within 5. I liked staying home and attending remote classes.	0.0%	0.0%	8.0%	14.3%	7.9%	8.6%
		% of Total	0.0%	0.0%	1.7%	4.3%	2.6%	8.6%
	3 Neutral	Count	0	3	3	6	9	21
		% within 5. I liked staying home and attending remote classes.	0.0%	25.0%	12.0%	17.1%	23.7%	18.1%
		% of Total	0.0%	2.6%	2.6%	5.2%	7.8%	18.1%
	4 Agree	Count	2	4	5	13	11	35
		% within 5. I liked staying home and attending remote classes.	33.3%	33.3%	20.0%	37.1%	28.9%	30.2%
		% of Total	1.7%	3.4%	4.3%	11.2%	9.5%	30.2%
	5 Strongly agree	Count	3	5	15	8	6	37
		% within 5. I liked staying home and attending remote classes.	50.0%	41.7%	60.0%	22.9%	15.8%	31.9%
		% of Total	2.6%	4.3%	12.9%	6.9%	5.2%	31.9%
Total	Count		6	12	25	35	38	116
	% within 5. I liked staying home and attending remote classes.		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total		5.2%	10.3%	21.6%	30.2%	32.8%	100.0%

APPENDIX F

Table 31. Spearman’s Rank Correlation Between Item 23 & 25

Spearman’s rank correlation coefficient results between “I was happy returning to school after lockdown” and “I missed being with my schoolmates in person”

			23. During remote lessons, I felt comfortable turning on my camera.	25. I felt bored and played video games or watched videos while in remote class.
Spearman's rho	23. During remote lessons, I felt comfortable turning on my camera.	Correlation Coefficient	1.000	-.138
		Sig. (2-tailed)	.	.139
		N	116	116
	25. I felt bored and played video games or watched videos while in remote class.	Correlation Coefficient	-.138	1.000
		Sig. (2-tailed)	.139	.
		N	116	116

- End Of Paper -