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Students' Perceptions of Teacher Support, and Their School and Life Satisfaction Before and After The COVID-19 Pandemic

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Abstract: In an attempt to examine the extent to which the COVID-19 pandemic affected the lives of primary school students, a longitudinal study was conducted focused on students' school satisfaction and life satisfaction, and their perception of the support provided by their teachers. The study was conducted in two waves, within the period of two years – the first one before the pandemic, and the second one upon its end, that is, when the students returned to classes in school. The study encompassed 548 students in total, attending third to eighth grades of primary school in the Republic of Croatia. 267 students participated in both waves of the study. The quantitative approach was applied. The results revealed statistically significant differences in students' perception of teacher support, and the level of their school satisfaction and life satisfaction. Students seem to have been more satisfied with school, life and teacher support before the pandemic. An additional analysis of the differences between generations of students (2019 and 2021) was conducted. Although the younger generation seem to give a lower rating to all the examined variables, in comparison to the generation of 2019, the results reveal statistically significant differences only in life satisfaction (grades 4, 5 and 7) and teacher support (grades 5 and 6). The limitations of the study, as well as implications for future research and educational practice are discussed.

Keywords: COVID–19; life satisfaction; school satisfaction; teacher support.

Introduction

The world is currently witnessing a great scientific and technological revolution. Its influence has reflected on various aspects of human life and can be particularly felt in the time of the COVID-19 pandemic. The changes brought about by the pandemic in the area of education were sudden and unexpected. The COVID-19 pandemic led to the closing of schools all around the world and transformed the existing ways of learning and teaching. Suddenly, distance learning was introduced. The pandemic emphasized the importance of online learning, which became an acceptable solution to a problem created when face-to-face teaching was brought to a halt. There had been no time to prepare for such a change. The learning and teaching environment underwent fundamental changes and had an impact on all stakeholders in the education process. Pokhrel and Chhetri (2021) point out that it was the biggest disturbance in the history of education. A great number of the main stakeholders in the education process, students and teachers, found themselves involved in online learning for the first time. In normal circumstances, such sudden and massive changes would call for additional resources, training, planned strategies and adaptability of all stakeholders. However, as it was impossible to provide them, both students and teachers were forced to cope with the new situation as best they could. Also, they came across various challenges and obstacles in the process (Salihagic and Akay, 2022). According to Blahušiaková, Mokošová, and Šoltés (2021) the primary goal of teachers was to ensure quality teaching at the same level as during the traditional attendance form of teaching. Teachers had to overcome the obstacles relating to technology, find new ways to design and adjust their teaching activities, combine pedagogy and technology, etc. (Son, 2018).

The transition from traditional teaching to virtual teaching for all students, at all education levels, is a phenomenon which had never been seen before. That is why it was important to examine students' perceptions of the changes in education introduced due to safety measures in order to minimize the

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negative effects of the pandemic. Students pointed out that negative characteristics of online learning for them included a lack of personal communication and self-confidence for asking questions when they did not understand something and when they needed clarification. Furthermore, they also mentioned difficulties in focusing on studying, lack of motivation for studying, technical problems, not understanding the tasks they were supposed to do, and writing exams. In general, students did not have a positive attitude to online teaching and were dissatisfied with it because they were faced with numerous challenges. The only positive thing they mentioned was being at home and feeling safe from catching a virus (Salihagic and Akay, 2022). Although the pandemic has not officially ended yet, its end is near (World Health Organization [WHO], 2021) and we are going back to the new normal, so we are using the phrase after the pandemic in the title of this paper as well.

During the pandemic in Croatia, the teaching process was conducted by applying one of the three possible models, depending on the epidemiological situation: A model – the teaching process was conducted in school; B model – a combination of in-school and online teaching, and C model – online teaching. Due to these three models, students in Croatia were able to have online lessons less frequently. The Croatian model, as an example of good practice, was presented at the WHO meeting on education in the time of the pandemic (WHO, 2021). In March 2020, the teaching process in Croatia was being conducted online, at all levels of education. Over time, the teaching process was slowly going back to its traditional form – face-to-face. At first, the youngest students in primary schools went back to face-to-face teaching, followed by older students. Occasionally, in case there were students who had been infected by the corona virus, or those who had been in close contact with the infected people, whole classes would go back to the virtual teaching environment for a certain period of time. In September 2021, the COVID-19 measures were relaxed and only individual students were required to self-isolate, instead of entire classes (Hrvatski zavod za javno zdravstvo [HZJZ], 2021).

Teacher support

Teacher support may be defined as a student's perception of care, help, feedback and advice provided by the teacher (Guess and McCane-Bowling, 2016). Alder (2002) lists teachers' characteristics that students perceive as caring and supportive. These teachers know their students well, provide personalized leadership for their students, teach them to understand the content, are academically helpful, and hold high expectations for behaviour and achievement. According to Skinner et al. (2008), teacher support includes three dimensions: autonomy support, structure and involvement. Autonomy support is teacher's provision of choice, relevance, or respect to students. Structure implies clear expectations, while involvement encompasses warmth, affection and understanding. Teacher support is positively related to a sense of belonging (Wang and Eccles, 2012), satisfaction with school (Buehler et al., 2015; Danielsen et al., 2009), and engagement in school (Buehler et al., 2015; Reyes et al., 2012). Supportive teachers create opportunities in the classroom which enable students' holistic growth and development, and help them experience the learning process in a positive way. Such experiences and encouraging feedback provided by teachers motivate students to be more engaged in work in school (Buehler et al., 2015). Wang et al. (2010) point out that students who feel teacher support tend to exhibit problem behaviour less frequently.

Students' School Satisfaction

Students' first associations with school include mainly studying, teaching, learning outcomes, and marks. However, school is much more than that. It is a place where students (and teachers) live and it should, besides providing students with opportunities to gain new knowledge and skills and enabling their personal growth and development, also provide them with a feeling of satisfaction and success. School satisfaction is a very important, but insufficiently researched phenomenon, which is related to students' well-being in school (Epstein and McPartland, 1976). Nowadays, school satisfaction is considered the fundamental area for understanding the quality of students' lives (Suldo, Bateman and Gelley, 2014).

Baker (1998) defines school satisfaction as a student's subjective cognitive evaluation of the quality of school life. Since it is a subjective construct, school satisfaction accounts for the individual differences in students' perceptions (Huebner, 1991a). Baker (1998) states that school satisfaction is influenced by numerous factors from students' environment and individual factors. The former include ethical and caring school environment, stress and family environment. It is expected that children's perception of caring and supportive school environment, including good and quality interpersonal relationships, will have a positive impact on children's school satisfaction. If children evaluate school as stressful environment, it will have a negative impact on their school satisfaction. The sources of stress most frequently associated with school are: academic requirements, interaction with teachers and interaction with peers (Carson and

Bittner, 1994). The quality of a child's family life is the most important environment factor that will probably influence school satisfaction. The most frequent individual factors that have an impact on children's school satisfaction are psychological distress and academic self-perception (Baker, 1998).

A high level of school satisfaction influences a student's acceptance of educational values and his/her motivation, and it is related to academic success as well (Danielsen et al., 2011; Goodenow and Grady, 1993). On the other hand, it has been proved that a low level of school satisfaction is related to students' risky behaviour and substance abuse (Vogel et al., 2015).

Life satisfaction

The experiences that children and young people have in school, be they positive or negative, will have an impact on the quality of their lives and their psychological well-being (Hui and Sun, 2010). One of the components of subjective well-being is life satisfaction, that is, an individual's evaluation of how satisfied he or she is with the quality of their own life (Pavot et al., 1991). Life satisfaction can be studied in terms of evaluation of life as a whole and/or in terms of evaluation of specific life domains (e.g. family, school) (Seligson, Huebner and Valois, 2003). Park, Peterson and Seligman (2004) point out that hope, as a character strength, is related to life satisfaction in adults, while Gilman and Huebner (2006) claim it is related to life satisfaction in young people as well.

Studies on life satisfaction in children and young people have been conducted recently, taking into consideration the introduction of measures intended to prevent the spread of SARS-CoV-2 virus. Magson et al. (2021) detected a significant decrease in the life satisfaction level in adolescents, following the introduction of safety measures at the national level due to the COVID-19 pandemic. They also determined differences in terms of gender and explained that girls exhibited a greater decrease in life satisfaction level than boys. Furthermore, according to the findings of a longitudinal study conducted by Steinmayr, Paschke and Wirthwein (2022) on a sample of 425 primary school students during the COVID-19 pandemic, there was a decrease in positive behaviour exhibited by children, as well as lower levels of family life satisfaction, general life satisfaction and satisfaction with peers.

The aim of the research

The aim of this study was to examine how primary school students perceive teacher support and how satisfied they are with school and their life. As the first wave of the study was carried out in 2019 (before the COVID-19 pandemic), and the second wave was conducted when students returned to schools in 2021 (after the COVID-19 pandemic), the first task in the study was to check if there were any changes in students' perceptions of teacher support, school satisfaction and life satisfaction. Between these two points in time the teaching process was sometimes conducted online, while before the beginning of the pandemic and after the study had been carried out the teaching process was conducted in the face-to-face format. An additional analysis was carried out to determine if there were differences in the perceptions of the examined variables in terms of the generation of students. It was assumed that, due to online teaching, students perceived a lower level of teacher support. It was also assumed that online teaching and lockdown had left their marks on students' school and life satisfaction.

This study aims to answer the following three questions:

1. Are there differences in students' perceptions of teacher support, school satisfaction and life satisfaction before and after the COVID-19 pandemic in the entire sample of the respondents?

2. Are there differences at a class level in students' perceptions of teacher support, school satisfaction and life satisfaction before and after the COVID-19 pandemic in the respondents who participated in both waves of the study?

3. Are there differences in students' perceptions of teacher support, school satisfaction and life satisfaction before and after the COVID-19 pandemic in terms of the generation to which students belong?

Materials and Methods

Participants and procedures

The sample comprised primary school students in Zagreb, the Republic of Croatia. Five hundred and forty eight students attending grades 3 – 8 of primary school participated in the study. Since primary school in the Croatian education system includes students from first (aged 6-7 years) to eighth grade (aged 13-14 years), the second wave of the study could not include the students who had attended grades 7 and 8 during the first wave of the study. Two hundred and sixty seven respondents in total took part in both waves of the study, 146 respondents took part only in the first wave (grades 7 and 8), while

135 respondents took part only in the second wave (grades 3 and 4). In relation to the total number of students in the school, the first wave included 82.6% (n1 = 413), and the second wave 77.75% (n2 = 402) of students. The total number of the respondents included 47.7% of male and 52.3% of female participants. A detailed analysis of the sample is shown in Table 1.

Table 1
The sample

Grade	3rd	4th	5th	6th	7th	8th	Total	M_{age} (SD_{age})
T1	*64**	*74**	*66**	*63**	*70*	*76*	*413*	*11.74 (1.76)*
T2	*65*	*70*	*64**	*74**	*66**	*63**	*402*	*11.70 (1.74)*
Total number of students	**129**	**144**	**131**	**137**	**136**	**140**	**548**	

Note: * respondents who took part in both waves

The study was conducted in line with the provisions of the Ethical Code for Research with Children. Prior to the study, a written parental consent for children's participation in the study had been obtained. As the participants are children attending lower grades of primary school, and in order to secure their anonymity and the protection of their data, the data in the first wave of the study were completely anonymous and did not involve any personal information based on which students could be identified. The only data that were collected were those on students' gender, age and grade. The first point of measurement was in 2019, before the pandemic broke out. Although the study was conducted anonymously, it was known who the participants were, as the written parental consent had been obtained prior to the study. However, the analyses were conducted only at the individual class level. In 2021 it was decided to repeat the measurement to examine the differences in students' school satisfaction and life satisfaction levels and the received teacher support, regarding the changes caused by the COVID-19 pandemic and the changes in students' lives and organization of the teaching process. In the second wave, written parental consent for participation of third- and fourth-grade students in the study was required again. For students attending grades 5, 6, 7 and 8, written parental consent was required only from those parents whose children had participated in the first wave of the study.

Measurements

Teacher support – to measure teacher support, one dimension of The Child and Adolescent Social Support Scale (CASSS; Malecki and Demaray, 2002; Malecki, Demaray and Elliott, 2014) was used. The Teacher Support Dimension originally contained 12 items. However, in this study, 5 items were used (e.g. My teachers tells me I did a good job when I've done something well). The calculated reliability coefficients were α = .832 (Time 1) and α = .830 (Time 2).

School satisfaction – to measure students' school satisfaction, one dimension of The Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 2011) was used, containing eight items (e.g. I like being in school). The calculated reliability coefficients were α = .841 (Time 1) and α = .838 (Time 2).

Life satisfaction – to measure students' life satisfaction, a one-dimensional Student's Life Satisfaction Scale (SLSS; Huebner, 1991b) was used. It contains nine items (e.g. I like the way things are going for me). The calculated reliability coefficients were α = .849 (Time 1) and α = .850 (Time 2).

Students evaluated all items on a 5-point scale (1 – Strongly disagree; 2 – Disagree; 3 – Neither agree nor disagree; 4 – Agree; 5 –Strongly agree).

Results

In order to provide answers to the questions posed in the study, the mean values and standard deviations were calculated for each of the examined variables in the first (n1 = 413) and the second wave (n2 = 402) of the study. The obtained results are presented in Table 2.

Table 2
Descriptive statistic for variables at Time 1 and Time 2

	Time 1		Time 2	
Variable	*M*	*SD*	*M*	*SD*
Teacher support	4.38	0.31	3.73	0.44
School satisfaction	3.83	0.36	3.22	0.36
Life satisfaction	4.22	0.35	3.69	0.27

Note: n1 = 413; n2 = 402

The results indicate that students were more satisfied with school and life and felt more teacher support before the pandemic. It should be pointed out that these data present the results obtained for the entire study sample.

In order to determine if there are differences in the perceptions before and after the COVID-19 pandemic, a t-test for dependent samples was performed on the data of those respondents who took part in both waves of the study. Since the data on students had not been matched, the t-test was performed at a class level (n = 15). Before the t-test, the normality of distributions was tested, indicating that the distributions for school satisfaction (z = .131; p > .01), life satisfaction (z = .186; p > .01) and teacher support (z = .173; p > .01) in 15 classes were not statistically significantly different from the normal distribution, so the application of t-test for dependent samples was justified. The results obtained by t-test are shown in Table 3.

Table 3
Differences in students' perception of teacher support, school satisfaction and life satisfaction before and after the COVID-19 pandemic

	T1		T2		*t-test*	*p*	*Cohen d*
	M	*SD*	*M*	*SD*			
Teacher support	4.38	0.31	3.73	0.44	5.444	.001*	1.71
School satisfaction	3.83	0.36	3.22	0.36	5.944	.001*	1.69
Life satisfaction	4.22	0.35	3.69	0.27	8.173	.001*	1.68

Note: T1 – time of the first measurement; T2 – time of the second measurement, N = 267; 15 classes

The results confirm statistically significant differences in the perceptions of teacher support, school satisfaction and life satisfaction. The obtained effect size, Cohen d, points to a great difference in perceptions, with all values significantly higher before the outbreak of the COVID-19 pandemic.

An additional analysis was carried out to detect possible differences in students' perceptions relating to the generation they belong to. In order to determine if there are differences between generations, the sets of data were compared – for example the data of third-grade students in 2019 with the results of other third-grade students in 2021. The t-test was performed for each grade respectively. Prior to that, the normalities of distributions (N = 792) were tested and it was revealed that distributions for school satisfaction (z = .046; p < .01), life satisfaction (z = .126; p < .01) and teacher support (z = .133; p < .01) showed statistically significant differences in comparison with the normal distribution. Still, since indices of skewness (.295 – .956) and kurtosis (.028 – .359) were small, and the number of the respondents was large enough, it was justified to use the parametric data analysis (Hair et al., 2010). The results of the t-test are shown in Table 4.

Table 4

Differences in students' perceptions of teacher support, school satisfaction and life satisfaction in terms of the generation students belong to

	T1		T2		*t-test*	*p*	*Cohen d*
	M	*SD*	*M*	*SD*			
3rd grade (n_1 = 62; n_2 = 65)							
Teacher support	4.59	0.59	4.62	0.46	-0.282	.778	0.05
School satisfaction	4.10	0.78	3.90	0.85	1.395	.166	-0.25
Life satisfaction	4.30	0.74	4.27	0.60	0.200	.842	-0.04
4th grade (n_1 = 77; n_2 = 70)							
Teacher support	4.56	0.70	4.46	0.58	0.945	.346	-0.16
School satisfaction	4.08	0.71	4.07	0.71	0.080	.936	-0.01
Life satisfaction	4.45	0.71	4.06	0.87	2.969	.003*	-0.49
5th grade (n_1 = 64; n_2 = 64)							
Teacher support	4.19	0.58	3.91	0.81	2.292	.024*	-0.41
School satisfaction	3.57	0.60	3.42	0.78	1.245	.215	-0.22
Life satisfaction	4.13	0.82	3.82	0.81	2.172	.032*	-0.38
6th grade (n_1 = 52; n_2 = 72)							
Teacher support	4.08	0.74	3.67	0.98	2.572	.011*	-0.48
School satisfaction	3.45	0.68	3.19	0.91	1.755	.082	-0.33
Life satisfaction	3.96	0.90	3.74	0.96	1.296	.197	-0.24
7th grade (n_1 = 66; n_2 = 66)							
Teacher support	3.90	0.81	3.83	0.76	0.580	.563	-0.10
School satisfaction	3.20	0.57	3.29	0.68	-0.798	.426	0.14
Life satisfaction	4.00	0.83	3.51	1.01	3.043	.003*	-0.53
8th grade (n_1 = 69; n_2 = 64)							
Teacher support	3.36	0.72	3.41	0.97	-0.350	.727	0.06
School satisfaction	3.08	0.70	2.92	0.79	1.208	.229	-0.21
Life satisfaction	3.86	0.78	3.65	1.02	1.364	.175	-0.24

Note: T1 – time of the first measurement; T2 – time of the second measurement

The differences in generations have shown that there were no statistically significant differences in the third and eighth grade in 2019 and 2021. In the group of students attending the fourth, fifth and seventh grade, the life satisfaction level was lower in 2021 in comparison with 2019. Also, students in the fifth and sixth grade perceived a lower level of teacher support in comparison with the year 2019. Still, all the identified differences have a moderate effect (Cohen d < 0.5).

Discussions

The aim of the present study was to investigate how primary school students perceive teacher support and how satisfied they are with their school and lives before and after the COVID-19 pandemic.

The current data have shown that students feel that teacher support was greater before than after the pandemic. Among all three examined variables, at both time points, the teacher support variable was ranked highest, but at the same time, the difference in the perceived teacher support before and after the pandemic was the biggest. The analysis of students' results at a grade level has shown that students felt teacher support was statistically significantly lower two years later.

A possible explanation for such results could be found in the fact that, since students are at a relatively young age (8-9 and 13-14 years old), the help they expected to get from their teacher during the pandemic and occasional online lessons was not sufficient. The majority of students probably did not have the necessary knowledge and sufficiently developed skills, especially the digital skills, which were of utmost importance for participation in online classes and for independent work. That is why they expected more care, attention, time and understanding from their teachers, which they, according to their

own assessment, did not receive.

Examining the differences by generations, it is evident that students in fifth and sixth grade perceived lower teacher support after the pandemic, while these differences were not evident in other generations. This might be due to the fact that students in Croatia have a classroom teacher in the first four grades of primary school, who spends several hours with them every day. In fifth grade, the classroom teacher is replaced by subject teachers. The transition to a new and different form of teaching in which subject teachers do not spend so much time with their students, do not know them well, and have not established a good rapport with them could have resulted in the fact that students perceived a lower level of teacher support. Furthermore, the teaching process during the pandemic was occasionally conducted via ICT tools, which might have made interaction and communication more difficult.

The importance of teacher support for students is great. Klem and Connell (2004) state that both students and teachers believe that teacher support is important for student engagement. Havik and Westergård (2020) point out that when students have caring teachers who encourage their development, they are more likely to work harder in class and be more engaged in work. Mali and Lin (2021) carried out research on the sample of undergraduate students in the UK, at two time points, during the second wave of the pandemic. The results revealed that students felt that teacher support was greater when lessons were conducted face-to-face (Mali and Lim, 2021). Examining students' perceptions of online learning before and after transition to online lessons due to the COVID-19 pandemic, Lemay, Bazelais and Doleck (2021) found that teachers should not only take into consideration the technical aspects, but also social and affective dimensions of support for students.

Although the use of computers or other artefacts in education is not a new issue, teaching in a virtual environment posed a problem for some teachers. Due to difficulties they had in mastering the usage of digital technology and tools, and transition to online teaching, some teachers might have provided less support for their students. These teachers were probably more focused on developing their own competencies, so they found it difficult to provide support to their students. It is very likely, as this study includes the initial stage of the pandemic, when the entire teaching process was transferred into a virtual environment in an extremely short time period. There was no time for teachers to prepare well for achieving the outcomes set in the curricula. Numerous studies point out that teachers experienced a great time pressure and increased volume of workload during the pandemic (van der Spoel et al., 2020), exhaustion (Sokal, Trudel and Babb, 2020) and stress (Klapproth et al., 2020). In order to use distance learning as a normal way of work, teachers should be provided with training and guidelines for development of their expertise in using the learning and teaching technology (Spiteri and Chang Rundgren, 2020), as well as sufficient resources, time and support (Stone and Springer, 2019).

According to the obtained results, among all the examined variables, students seem to be least satisfied with school, both before and after the pandemic. Furthermore, their school satisfaction decreased during the pandemic, making a statistically significant difference. Teacher support is one of the significant predictors of general school satisfaction (Bubić and Goreta, 2015). Since students perceive a lower level of teacher support over time, it is not surprising that school satisfaction is also lower. Baker et al. (2003) also point out that low school satisfaction can be a result of students' perception of insufficient social support from classmates and teachers.

Differences between generations of students in school satisfaction were not found, as students were moderately satisfied with schools during measurements at both time points. Still, it is evident that there is a decreasing level of school satisfaction as students get older. Older students seem to be less satisfied with school, which is in line with other studies carried out in primary schools in Croatia (Perić, 2010; Koludrović and Radnić, 2013; Nikčević-Milković, Jerković and Biljan, 2014). During the course of education, requirements from students become more complex and demanding, and expectations become higher. Therefore, it is possible that older students tend to exhibit greater dissatisfaction.

Kuo et al. (2014) point out that interaction is a critical factor of student satisfaction. During the pandemic and online teaching, the interaction between teachers and students, and among students themselves, was reduced and made difficult, which affected the results we obtained in our study through reduced school satisfaction.

Glazier and Harris (2021) examined the similarities and differences in the perceived face-to-face and online teaching among graduate and undergraduate students at the University of Arkansas, USA (N = 2,007). They collected qualitative and quantitative data via surveys. American students' perceptions of online teaching were lower than their perceptions of face-to-face teaching. Although this study involved university students, not primary school students like our study, it is significant that they mention the possibility of establishing personal relationships. Apart from the importance of quality interaction between students and teachers, Alqurashi (2019) points out the importance of interaction between students and

*t*he content, which proved to be the strongest and most significant predictor of student satisfaction in online learning environment. Baber (2020) claims that student school satisfaction is a key component of education and that it should be kept in mind during transition from offline to online teaching.

Our findings showed that students perceived a higher level of life satisfaction before the pandemic in contrast to the period after the pandemic, and this difference is statistically significant. It should be mentioned that students perceived a higher level of life satisfaction than school satisfaction, at both time points. A possible explanation is that factors outside school have an important impact on life satisfaction in general. Achkar et al. (2019) carried out research with primary school students in Brazil (N = 400; age = 11-17 years) and found that the adolescents who perceived a higher level of support provided by family and community seemed to exhibit a higher level of life satisfaction.

School takes an important place in the lives of children and adolescents. Huebner, Ash and Laughlin (2001) state that school satisfaction has a key role in defining the level of students' quality of life. The study carried out by Gempp and González-Carrasco (2021) confirmed a significant reciprocal effect between school satisfaction and overall life satisfaction. Examining the perceptions of sixth grade students in Germany on an individual level, it was determined that life satisfaction is positively related to teachers' care and monitoring and autonomy, whereas school-related demands were related to lower life satisfaction (Rathmann et al., 2018).

Since, in our study, we found a difference at a grade level (within generations), that is, we found that the same students perceived lower values after the period of two years, it can be assumed that one of the factors accountable for this difference is the COVID-19 pandemic. Also, these differences might depend on the students' age, that is, there are differences between lower and higher grades of primary school. Taking into consideration the data of those participants who took part in both waves of the study, the students who participated in the second wave were approximately two years older than the participants in the first wave. It is precisely why it was examined if there were differences in generations; that is, if there were some differences in different generations in 2019 and 2021. Most differences were found in life satisfaction, so students in fourth, fifth and seventh grade in 2019 perceived a lower level of life satisfaction than students in the same grades in 2021.

A longitudinal study, similar to ours, was conducted by Magson et al. (2021) on a sample of adolescents (N = 248) in Australia (Mage = 14.4), a year before the pandemic and two months after restrictive measures had been introduced by the government due to the pandemic. Among other symptoms, the authors examined general life satisfaction and determined a significant reduction in the level of life satisfaction between the first and the second measurement.

Conclusions

In this study, primary school students' perceptions of teacher support, school satisfaction and life satisfaction were examined. Student perceptions are influenced by school environment and a broader context (family, peers, society). The study was longitudinal, and the measurements were taken at two time points – before the pandemic and after the pandemic, when students returned to school.

The results confirm the assumption that students were more satisfied with school, life and teacher support before the outbreak of the pandemic. In the analysis of the obtained data, the values measured in two waves, in a two-year time interval, were compared. Since the COVID-19 pandemic broke out in the period between the two measurements and the teaching process and life in general were organized in a different way, an explanation can be found in the changed circumstances.

Still, school satisfaction and life satisfaction are frequently related to students' age. It is a well-known fact that younger students tend to exhibit a higher level of school satisfaction than older students, so the results obtained in this study can be viewed within this context as well. Students included in the study are in the period of late childhood and early adolescence, in terms of their developmental characteristics. In this period of life, socializing with peers is of utmost importance. However, throughout the period of online teaching during the pandemic, they were deprived of physical contacts, which might have influenced their perception of a lower level of life satisfaction.

Since all students seem to be generally dissatisfied with school, it poses a great pedagogical challenge which should be addressed in the future. School is a considerably inert system and it seems that, to a certain extent, it does not suit the needs and expectations of all students. The time after the pandemic is a period in which teachers, scientists and educational experts have no time to remain passive; they are expected to take immediate action instead.

However, the study has certain limitations. First of all, the sample was appropriate, and the data

were collected only in one primary school. Students in other schools might have had different perceptions, although all schools in the Republic of Croatia were following the guidelines by the Ministry of Science and Education and conducted the teaching process in the same way (face-to-face or online). Furthermore, it should be pointed out that two measurements at two time points did not involve the same students. Students who had finished school during the time period of two years (that is how long the study lasted) did not participate in the second wave of the study, and students attending third and fourth grade were included, although they did not participate in the first wave of the study.

The value of the study certainly lies in the selection of the participants, as a relatively small number of studies have been conducted involving primary education. Most of studies have been conducted in the area of higher education, involving undergraduate and graduate students, although online teaching had been introduced at all levels of education. Moreover, younger students must have been put in a more difficult position due to developmental characteristics, insufficiently developed digital competencies and lack of independence in work. Therefore, it was by no means harder for them to get involved in and participate in a new form of teaching and learning. As far as we are aware, this is the first study conducted in Croatia that examined these variables, before and after the COVID-19 pandemic, in primary school students.

Regardless of the fact that this was a longitudinal study, the changes in students' perceptions cannot be ascribed solely to the effects of the COVID-19 pandemic. Numerous other factors (for example, family situation, gender, exposure to media content during the pandemic) might have had a direct or indirect influence on students' perceptions. On the other hand, we cannot ignore the pandemic or marginalize its impact. That is why this study could inspire other studies. Besides, since online teaching will certainly be conducted in the future, the obtained results might help direct attention to the efforts that teachers might make in order to raise the level of online teaching quality and students' satisfaction.

Conflict of interests

The authors declare no conflict of interest.

Author Contributions

All persons who meet authorship criteria T.V., M.Đ., I.K. are listed as authors, and all authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the concept T.V., M.Đ., I.K., design T.V., M.Đ., I.K., formal analysis T.V., M.Đ., I.K., investigation T.V., methodology T.V., visualization T.V., writing M.Đ., I.K., and revision of the manuscript T.V., M.Đ., I.K.. All authors have read and agreed to the published version of the manuscript.

References

Achkar, A. M., Leme, V. B., Soares, A. B., & Yunes, M. A. (2019). Life satisfaction and academic performance of elementary school students. Psico-USF, *Bragança Paulista, 24*(2), 323-335. https://doi.org/10.1590/1413-82712019240209

Alder, N. (2002). Interpretations of the meaning of care: Creating caring relationships in urban middle school classrooms. *Urban Education, 37*(2), 241-266. https://doi.org/10.1177/0042085902372005

Alqurashi, E. (2019). Predicting student satisfaction and perceived learning within online learning environments. *Distance Education, 40*(1), 133-148. https://doi.org/10.1080/01587919.2018.1553562

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID19. *Journal of Education and E-Learning Research, 7*(3), 285-292. https://doi.org/10.20448/journal.509.2020.73.285.292

Baker, J. A. (1998). The social context of school satisfaction among urban, low-Income, African-American students. *School Psychology Quarterly, 13*(1), 25-44. https://doi.org/10.1037/h0088970

Baker, J. A., Dilly, L. J., Aupperlee, J. L., & Patil, S. A. (2003). The developmental context of school satisfaction: Schools as psychologically healthy environments. *School Psychology Quarterly, 18*, 206-221. https://doi.org/10.1521/scpq.18.2.206.21861

Blahušiaková, M., Mokošová, D., & Šoltés, E. (2021). Education in online environment from students' and teachers' perspective. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 9*(2), 203-226. https://doi.org/10.23947/2334-8496-2021-9-2-203-226

Bubić, A., & Goreta, I. (2015). Akademske i socijalne odrednice općeg zadovoljstva školom [The role of academic and social factors in explaining school satisfaction]. *Psihologijske teme, 24*(3), 473-493. Retrieved from https://hrcak.srce.hr/149105

Buehler, C., Fletcher , A. C., Johnston, C., & Weymouth, B. B. (2015). Perceptions of school experiences during the first semester of middle school. *The School Community Journal, 25*(2), 55–83., 25(2), 55-83. Retrieved from http://www.schoolcommunitynetwork.org/SCJ.aspx

Carson, D. K., & Bittner, M. T. (1994). Temperament and school-aged children's coping abilities and responses to stress. *The*

Journal of Genetic Psychology, 155(3), 289-302. https://doi.org/10.1080/00221325.1994.9914779
Danielsen, A. G., Breivik, K., & Wold, B. (2011). Do Perceived Academic Competence and School Satisfaction Mediate the Relationships Between Perceived Support Provided by Teachers and Classmates, and Academic Initiative? *Scandinavian Journal of Educational Research, 55*(1), 379-401. https://doi.org/10.1080/00313831.2011.587322
Danielsen, A. G., Samdal, O., Hetland, J., & Wold, B. (2009). School-related social support and students' perceived life satisfaction. *The Journal of Educational Research, 102*(4), 303-318. https://doi.org/10.3200/JOER.102.4.303-320
Epstein, J., & McPartland, J. (1976). The concept and measurement of the quality of school life. *American Educational Research Journal, 13*(1), 15-30. https://doi.org/10.3102/00028312013001015
Gempp, R., & González-Carrasco, M. (2021). Peer relatedness, school satisfaction, and life satisfaction in early adolescence: A non-recursive model. *Frontiers in Psychology, 12*, 641714. https://doi.org/10.3389/fpsyg.2021.641714
Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life satisfaction. *Journal of Youth and Adolescence, 35*(3), 311-319. https://doi.org/10.1007/s10964-006-9036-7
Glazier, R. A., & Harris, H. S. (2021). Instructor presence and student satisfaction across modalities: survey data on student preferences in online and on-campus courses. *The International Review of Research in Open and Distributed Learning, 22*(3), 77-98. https://doi.org/10.19173/irrodl.v22i3.5546
Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education, 62*(1), 60-71. https://doi.org/10.1080/00220973.1993.9943831
Guess, P. E., & McCane-Bowling, S. J. (2016). Teacher support and life satisfaction: An investigation with urban, middle school students. *Education and Urban Society, 48*(1), 30-47. https://doi.org/10.1177/0013124513514604
Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate Data Analysis* (7th ed.). Pearson Prentice Hall.
Havik, T., & Westergård, E. (2020). Do teachers matter? Students' perceptions of classroom interactions and student engagement. *Scandinavian Journal of Educational Research, 64*(4), 488-507. https://doi.org/10.1080/00313831.2019.1577754
Hrvatski zavod za javno zdravstvo (HZJZ), [Croatian Institute of Public Health]. (2021). Postupanje s bliskim kontaktima u odgojno-obrazovnim ustanovama: mjera zdravstvenog nadzora [Procedure for close contacts in educational institutions: a health monitoring measure]: Retrieved from https://www.hzjz.hr/wp-content/uploads/2020/03/Postupak-kod-jednog-u%C4%8Denika-oboljelog-od-COVID-19-koji-je-bio-na-nastavi-u-vrijeme-zaraznosti.pdf
Huebner, E. S. (1991a). Correlates of life satisfaction in children. *School Psychology Quarterly, 6*(2), 103-111. https://doi.org/10.1037/h0088805
Huebner, E. S. (1991b). Initial development of the Student's Life satisfaction Scale. *School Psychology International, 12*(3), 231-240. https://doi.org/10.1177/0143034391123010
Huebner, E. S. (2011). *Revised manual for the Multidimensional Students' Life Satisfaction Scale*. Columbia, SC: University of South Carolina.
Huebner, E. S., Ash, C., & Laughlin, J. (2001). Life experiences, locus of control, and school satisfaction in adolescence. *Social Indicators Research, 55*, 167-183. https://doi.org/10.1023/A:1010939912548
Hui, E. K., & Sun, R. C. (2010). Chinese children's perceived school satisfaction: The role of contextual and intrapersonal factors. *Educational Psychology, 30*(2), 155-172. https://doi.org/10.1080/01443410903494452
Klapproth, F., Federkeil, F., Heinschke, F., & Jungmann, T. (2020). Teachers' experiences of stress and their coping strategies during COVID-19 induced distance teaching. *Journal of Pedagogical Research, 4*(4), 444-452. https://doi.org/10.33902/JPR.2020062805
Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*(7), 262-273. https://doi.org/10.1111/j.1746-1561.2004.tb08283.x
Koludrović, M., & Radnić, I. (2013). Doprinos nekih osobnih i socijalnih čimbenika u objašnjenju školskog uspjeha u ranoj adolescenciji [The contribution of some personal and social factors in explaining school achievement in early adolescence]. *Pedagogijska istraživanja, 10*(1), 65-79. Retrieved from https://hrcak.srce.hr/126479
Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *Educational Psychology, Counseling, and Special Education, 20*, 35-50. https://doi.org/10.1016/j.iheduc.2013.10.001
Lemay, D. J., Bazelais, P., & Doleck, T. (2021). Transition to online learning during the COVID-19 pandemic. *Computers in Human Behavior Reports, 4,* 100130. https://doi.org/10.1016/j.chbr.2021.100130
Magson, N. R., Freeman, J. Y., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence, 50*(1), 44-57. https://doi.org/10.1007/s10964-020-01332-9
Malecki, C., & Demaray, M. (2002). Measuring perceived social support: Development of the Child and Adolescent Social Support Scale (CASSS). *Psychology in the Schools, 39*(1), 1–18. https://doi.org/10.1002/pits.10004
Malecki, C., Demaray, M., & Elliott, S. (2014). *A working manual on the development of the Child and Adolescent Social Support Scale* (2000). DeKalb, IL: Northern Illinois University.
Mali, D., & Lim, H. (2021). How do students perceive face-to-face/blended learning as a result of the Covid-19 pandemic? *The International Journal of Management Education, 19*(3), 100552. https://doi.org/10.1016/j.ijme.2021.100552
Nikčević-Milković, A., Jerković, A., & Biljan, E. (2014). Povezanost komponenti samoregulacije učenja sa školskim uspjehom i zadovoljstvom školom kod učenika osnovnoškolske dobi [Connection components of self-regulated learning and academic success and satisfaction with school in primary school pupils]. *Napredak, 154*(4), 375-398. Retrieved from https://hrcak.srce.hr/138857
Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology, 23*(5), 603-619. https://doi.org/10.1521/jscp.23.5.603.50748
Pavot, W., Diener, E., Colvin, R. C., & Ed Sandvik, E. (1991). Further validation of the satisfaction with life scale: Evidence for the cross-method convergence of well-being measures. *Journal of Personality Assessment, 57*(1), 149-161. https://doi.org/10.1207/s15327752jpa5701_17
Perić, B. (2010). Škola u očima učenika [School in the eyes of students]. *Školski vjesnik: časopis za pedagogijsku teoriju i*

praksu, 59(1), 127-146. Retrieved from https://hrcak.srce.hr/clanak/122469

Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future, 8*(1), 133–141. https://doi.org/10.1177/2347631120983481

Rathmann, K., Herke, M. G., Hurrelmann, K., & Richter, M. (2018). Perceived class climate and school-aged children's life satisfaction: The role of the learning environment in classrooms. *PLoS ONE, 13*(2), e0189335. https://doi.org/10.1371/journal.pone.0189335

Reyes, M. R., Brackett, M. A., Rivers, S. E., White, M., & Salovey, P. (2012). Classroom emotional climate, student engagement, and academic achievement. *Journal of Educational Psychology, 104*(3), 700-712. https://doi.org/10.1037/a0027268

Salihagic, S., & Akay, C. (2022). Perception, Engagement and Satisfaction of English Language Learners with Online Learning During Covid-19 Pandemic. *European Journal of Education, 5*(2), 35-50. https://doi.org/10.2478/ejed-2022-0003

Seligson, J., Huebner, E., & Valois, R. (2003). Preliminary validation of the the Brief Multidimensional Students' Life Satisfaction Scale. *Social Indicators Research, 61*(2), 121–145. https://doi.org/10.1023/a:1021326822957

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational. *Journal of Educational Psychology, 100*(4), 765–781. https://doi.org/10.1037/a0012840

Sokal, L., Trudel, L. E., & Babb, J. (2020). Canadian teachers' attitudes toward change, efficacy, and burnout during the COVID-19 pandemic. *International Journal of Educational Research Open, 1*, 100016. https://doi.org/10.1016/j.ijedro.2020.100016

Son, J.-B. (2018). Technology in English as a foreign language (EFL) teaching. U J. I. Liontas, *The TESOL Encyclopedia of English Language Teaching* (1st ed.) (pp. 1-7). John Wiley & Sons, Inc. https://doi.org/10.1002/9781118784235.eelt0448

Spiteri, M., & Chang Rundgren , S.-N. (2020). Literature review on the factors affecting primary teachers' use of digital technology. *Technology, Knowledge and Learning, 25*(1), 115–128. https://doi.org/10.1007/s10758-018-9376-x

Steinmayr, R., Paschke, P., & Wirthwein, L. (2022). Elementary school students' subjective well-being before and during the COVID-19 pandemic: A longitudinal study. *Journal of Happiness Studies, 23*(6), 2985–3005. https://doi.org/10.1007/s10902-022-00537-y

Stone, C., & Springer, M. (2019). Interactivity, connectedness and 'teacher-presence': Engaging and retaining students online. Australian Journal of Adult Learning, 59(2), 146-169. Retrieved from https://search.informit.org/doi/abs/10.3316/aeipt.224048

Suldo, S., Bateman, L., & Gelley, C. (2014). Understanding and promoting school satisfaction in children and adolescents. In M. Furlong, R. Gilman, & E. Huerbner, *Handbook of Positive Psychology in Schools* (pp. 365-380). Routledge/Taylor & Francis Group.

van der Spoel, I., Noroozi, O., Schuurink, E., & van Ginkel, S. (2020). Teachers' online teaching expectations and experiences during the Covid19-pandemic in the Netherlands. *European Journal of Teacher Education, 43*(4), 623-638. https://doi.org/10.1080/02619768.2020.1821185

Vogel, M., Rees, C. E., McCuddy, T., & Carson, D. C. (2015). The highs that bind: School context, social status and marijuana use. *Journal of Youth and Adolescence, 44*(5), 1153-1164. https://doi.org/10.1007/s10964-015-0254-8

Wang, M.-T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development, 83*(3), 877-895. https://doi.org/10.1111/j.1467-8624.2012.01745.x

Wang, M.-T., Selman, R. L., Dishion, T. J., & Stormshak, E. A. (2010). A tobit regression analysis of the covariation between middle school students' perceived school climate and behavioral problems. *Journal of Research on Adolescence, 20*(2), 274-286. https://doi.org/10.1111/j.1532-7795.2010.00648.x

World Health Organization. (2021, May). Third high-level meeting on schooling during the COVID-19 pandemic: Virtual meeting hosted by the WHO Regional Office for Europe in partnership with the United Nations Children's Fund (UNICEF) and the United Nations Educational, Scientific and Cultural Organization (UNESCO): Retrieved from https://www.who.int/europe/publications/i/item/WHO-EURO-2021-3169-42927-59948