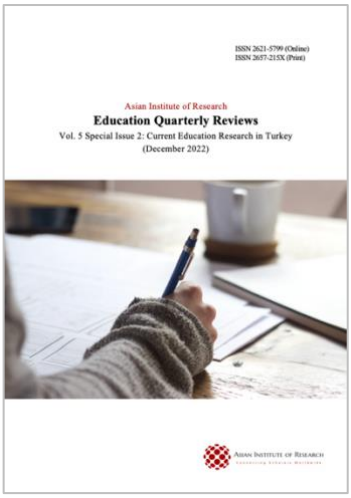

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Turkish Primary School Students' Knowledge, Behavior, and Awareness of "Healthy Living": Reflections on the COVID-19 Epidemic Process in the Context of Life Science Course

Mehmet Fatih Kaya[1], Oktay Ağır[2]

[1] Faculty of Education, Uşak University, Türkiye
[2] Kütahya Tavşanlı Gürağaç Primary School, Türkiye

Correspondence: Mehmet Fatih Kaya, E-mail: mfatihkaya11@gmail.com

Abstract
This research aims to assess the impacts of the COVID-19 epidemic process on the knowledge, thoughts, actions, and awareness of primary school pupils regarding "healthy life," in accordance with the attainments of the Turkish Life Science curriculum. The research was conducted using phenomenology. Maximum variation sampling was utilized to determine the study participants. Accordingly, primary schools located in three distinct settlements (middle-upper and lower-middle socio-economic levels located in the district centre and the town connected to the district) were chosen for the 2020–2021 academic year in the Tavşanlı district of the Kütahya province of Turkey. The information was collected from 18 pupils in the primary schools' 1st, 2nd, and 3rd classes. A semi-structured interview form was utilized to collect data for the study. The dataset was analysed using the approach of descriptive analysis. According to the findings of the study, the students were aware of healthy life. In addition, it was revealed that a large percentage of student responses overlapped with the associated subjects and attainments of the Life Science courses. During the COVID-19 outbreak, students reported that their lives were affected in the areas of "academic, health, personal, and social". Concurrently, it has been determined that their lifestyles have changed in a variety of ways, as well as their attitudes and actions regarding healthy living. In this context, it may be stated that diverse subjects should be incorporated into students' in-school and extracurricular activities in order to increase their knowledge, abilities, and awareness of healthy living.

Keywords: Healthy Living, Health Literacy, Life Science Course, COVID-19

1. Introduction

Throughout history, numerous events in the world have brought up a variety of health issues. Recent outbreaks of the COVID-19 pandemic disease have occurred simultaneously and instantaneously throughout the world. In this regard, the need for education, understanding, and awareness of healthy living becomes apparent at the same rate that such difficulties that have been encountered in the course of history and that inhibit healthy existence tend to reappear. An educational process on healthy living; in the pre-school years, it is dealt with randomly in the family and near environment, and in primary school, it is dealt with in a more planned manner within the boundaries of

the curriculum and in various courses under the direction of certain courses. Because the objective of health education in schools is to reinforce the child's beneficial pre-school health knowledge, attitudes, and behaviours and to replace the bad and insufficient ones (Bahar, 2010).

Although there is similar information in many primary school topics, the Life Science course appears to be the first and most essential building block in the context of health and healthy life education. In the primary school years, children's personalities and futures are shaped; this is a crucial time when the acquired knowledge, abilities, values, and concepts prepare them for life and the subsequent learning phases. The Life Science course includes basic concepts, knowledge, and skills that are directly related to daily life and can affect the entire life in the primary school period; It is a course that aims to gain knowledge, skills, behaviours, and attitudes about life, to adapt to the environment, and to adapt life-related issues to the developmental characteristics of the student (Binbaşıoğlu, 2003; Gültekin & Özenç İra, 2010).

It is observed that the topic of a healthy lifestyle, which was implemented in Turkey in 2018, is covered in depth in the Life Studies course curriculum for grades 1-2-3 (MEB, 2018). Consequently, the program's learning attainments relating to a healthy lifestyle are listed in Appendix-A. The conceptual framework derived from these attainments is depicted in Figure 1. Examining the relevant acquisitions and conceptual structure reveals numerous contents associated with nutrition, cleaning habits, personal care, physical activity, sleep, public health, environmental cleaning, health problems, and health protection. Throughout history, numerous events in the world have brought up a variety of health issues. Recent outbreaks of the COVID-19 pandemic disease have occurred simultaneously and instantaneously throughout the world. In this regard, the need for education, understanding, and awareness of healthy living becomes apparent at the same rate that such difficulties that have been encountered in the course of history and that inhibit healthy existence tend to reappear. An educational process on healthy living; in the pre-school years, it is dealt with randomly in the family and near environment, and in primary school, it is dealt with in a more planned manner within the boundaries of the curriculum and in various courses under the direction of certain courses. Because the objective of health education in schools is to reinforce the child's beneficial pre-school health knowledge, attitudes, and behaviours and to replace the bad and insufficient ones (Bahar, 2010).

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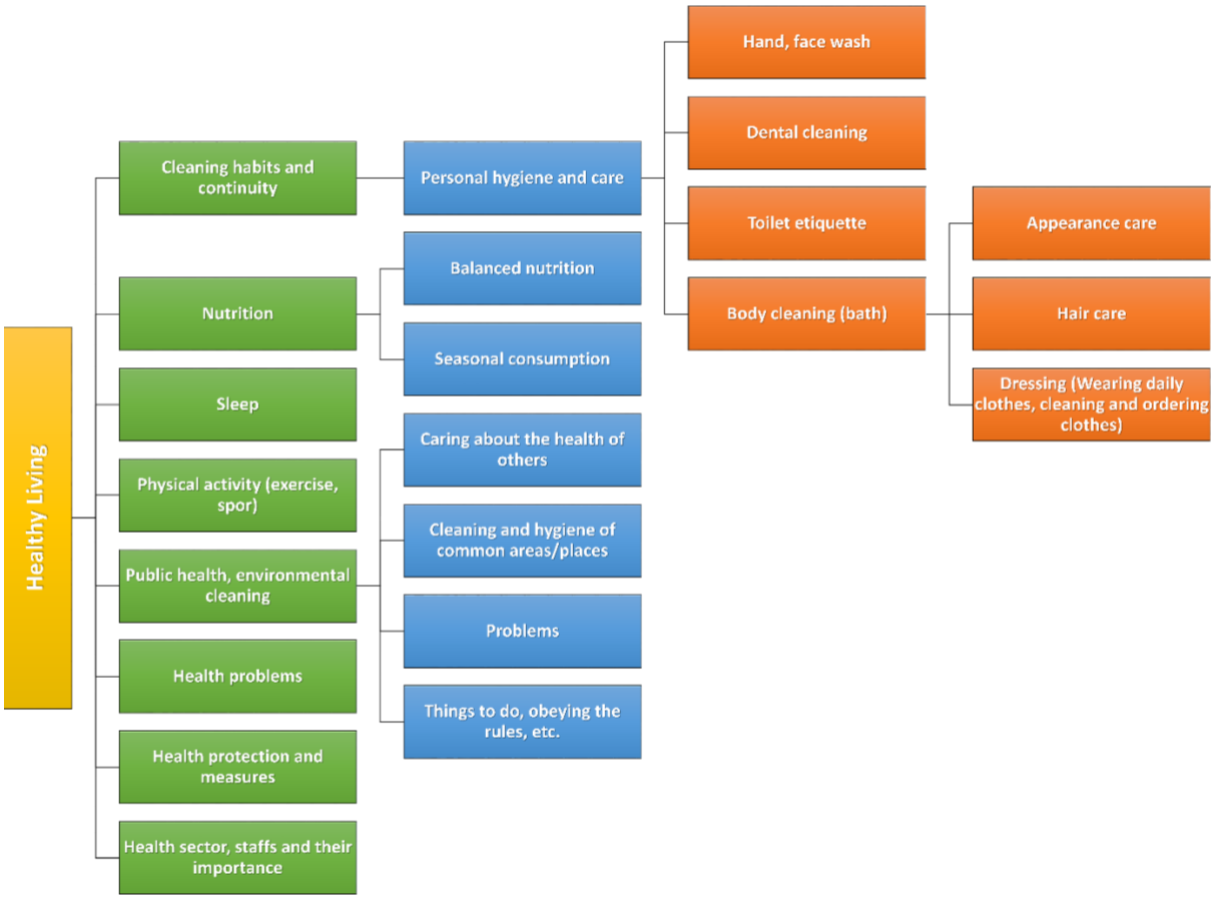

Figure 1: The conceptual Framework of "healthy living" in the Life Science course curriculum

The new COVID-19 coronavirus epidemic, which began on December 31, 2019 in Wuhan, China, and spread to nearly all countries within a few months, has brought with it a very different process that affects all aspects of life (Paudel, 2021). While nations struggle with the economic, sociological, and psychological effects of the epidemic, people have encountered a variety of concepts, including an epidemic, virus, mask, social distance, quarantine, disinfectant, and new forms of life. All authorities worldwide have issued warnings regarding concepts such as a healthy lifestyle, cleanliness, hygiene, and a robust immune system. In addition, important regulations were imposed on individuals within the context of social isolation. On the other hand, children have witnessed experiences such as being separated from their friends, not being able to play outside, staying away from family and close friends, and the cancellation of group activities due to the transition to distance education following the complete closure of schools.

In terms of education, children who are in the full-time school period have entered a new life and awareness process associated with healthy living (cleaning, hygiene, mask, gloves, disinfectant, cologne, nutrition, movement, etc.). Because avoiding or combating an invisible, contagious, and unknown-origin virus has resulted in a drastically different experience for children. On this basis, the study focused on students' knowledge, behavior, and awareness of healthy living. In this context, it was attempted to determine the effects of the COVID-19 process on students' knowledge, behavior, and awareness of healthy living. At the same time, it is anticipated that students will learn healthy and unhealthy behaviors, draw various lessons and conclusions from the epidemic process, and support the development of health literacy skills that they can use for the rest of their lives. It is therefore possible to predict the degree to which the content learned about healthy living in Life Studies courses in Turkey overlaps with daily life and the degree to which Life Studies courses and related curriculum prepare students for real life. The purpose of this study is to examine the effects of the COVID-19 epidemic on the knowledge, behavior, and awareness of "healthy life" among primary school students, per the objectives of the Life Science course. In this regard, the following sub-questions were investigated:

- What do primary school students know about healthy living?
- What changes have occurred in the context of “health”, “education”, “personal” and “social” of their lives as a result of the COVID-19 outbreak?
- In the context of healthy living, what changes have occurred in terms of awareness, knowledge, behavior, and awareness before and after the COVID-19 epidemic?

2. Method

The research design, methodology, participant details, data collection instruments, data gathering and analysis steps, as well as investigations of credibility, verifiability, transferability, and reliability are all provided here.

2.1 Research Design

Qualitative research methodologies, such as the phenomenology pattern, were used to conduct this study. The purpose of a phenomenology study is to shed light on how various people who have first-hand contact with an event interpret that experience and what they take away from it (Patton, 2014). The researchers opted for a phenomenological approach because they wanted to compare and contrast the perspectives of students who experienced the COVID-19 pandemic at roughly the same time but in very different ways, setting those comparisons and contrasts against the attainments of the Life Science curriculum. In this way, it was tried to determine how the students were affected by the epidemic process within the framework of "healthy life", and what kind of changes occurred in their awareness and behavior. At the same time, this situation was evaluated according to the achievements of the Life Studies course. In addition, the effect of what the students learned in the context of "healthy life" in the Life Studies lessons was also revealed.

2.2 Participants

The maximum variation sampling approach (a purposive sampling technique) was used to select the study's participants. For the upcoming 2020-2021 school year, three primary schools in the Tavşanlı district of Turkey's Kütahya province were chosen randomly. These schools are located in economically diverse neighbourhoods (the district centre, a nearby town, and a more economically disadvantaged neighbourhood). Data were acquired by conducting semi-structured interviews with a total of 18 pupils, two each from the 1st, 2nd, and 3rd classes at various primary schools (Table 1).

Table 1: Participants of the Study

	Grades						Total
	Grade 1		Grade 2		Grade 3		
School	G	B	G	B	G	B	
M.E. Primary School (district centre)	x	x	x	x	x	x	6
N.S. Primary School (in the coastal area in the district centre)	x	x	x	x	x	x	6
G.Ü. Primary School (in the city attached to the district)	x	x	x	x	x	x	6
Total							18

2.3 Data Gathering Instrument and Implementation Process

The data for this study were gathered using a semi-structured interview form designed and developed by the researchers. The researchers compiled a pool of totally 15 interview questions prior to conducting interviews. At least one drilling question was added to each question. The questions were then updated based on the comments of academics with expertise in primary teaching and the life sciences. Lastly, pilot interviews were done with three students from 3rd grade excluded from the study. Observing the utility of the questions in this manner, the actual interviews were done after giving final shape following the appropriate preparations. The 8 main questions were used in interviews. By participating the researchers, the interviews were conducted through the Zoom program and were completed in nine days, with two students per day totally 18 students. Video recordings were taken in

accordance with the participants' permission. The interviews were taken between 12 and 17 minutes. The collected data was then transcript into text by the researchers.

2.4 Data Analysis

The content analysis method was utilized to analyze the study's data. It is to bring together the data within the framework of certain concepts and themes and to organize and interpret them in a way that the reader can understand (Yıldırım & Şimşek, 2006). Content analysis is a systematic, iterable technique in which some words of a text are summarized into smaller content categories with coding based on certain rules (Büyüköztürk et al. 2013). Since this study was carried out in a phenomenological pattern and through interviews, in-depth data were tried to be reached by using content analysis. Therefore, the opinions of the participants who experienced the same phenomenon from different angles were determined. In the context of this study, it is the phenomenon of the research that the COVID-19 process is experienced at the same time in terms of "healthy life". In this respect, students who experience this process together are the focus of this research. Various codes and themes were reached by analyzing the data obtained during the analysis process. These codes and themes were given to the academics with expertise in primary teaching and the life sciences. According to their feedbacks, some changes were made in analyze process.

2.5 Trustworthiness, Credibility and Ethical Considerations

The researchers in this study took efforts to assure credibility, transferability, and ethical control. These measures consist of:

Table 2: The trustworthiness and credibility studies of the research

Trustworthiness and Transferability	Obtaining experts' opinion
	Direct quotation
	A description of the instrument and procedure for data collection.
	A description of the data analysis method
	Participants and the implementation process are described.
	Presentation of the study's limitations
Credibility and Coherence	Presentation of the results in their natural form without comment
	Creation of a checklist
	Checking the data by experts
	Verification of the coherence of the data

For the questions to be used in the data collection instrument, the opinions of the experts were sought, and the necessary arrangements were made in accordance with their suggestions. After obtaining the necessary permissions, pilot interviews were conducted to determine the utility of the questions, and they were then prepared for the actual interviews. In addition, direct student perspectives were included in the presentation of the findings in order to present the data as accurately as possible. In addition, the participants' identities were concealed by using the code names assigned to them instead of their actual names. Due to the COVID-19 outbreak, Zoom was utilized to conduct online semi-structured interviews. In order to prevent data loss, video recordings were taken in accordance with the participants' permission. These records were never used for any purpose other than research and were never shared with a second individual or organization. Before the interviews, the participant students and their families were informed about the study and a consent text was presented to the family and the student; interviews were conducted after obtaining their consent. At the beginning of the interview, audio or video confirmation was obtained. In the process of analyzing the data, the researchers created a checklist by individually coding the data and developing themes. The researchers then compared the checklists and reviewed the records from the re-interviews to identify any discrepancies.

The scope of this study is restricted to 1st, 2nd, and 3rd grade students in the Tavşanlı district of Kütahya province, Turkey, during the 2020–2021 school year. Currently, it is based on the inclusion of the Life Studies course in the curriculum of these classes. In addition, these students' schools were selected from various Tavşanlı communities.

As a result of the COVID-19 outbreak, online interviews were conducted during the data collection process, as schools were implementing distance education. Therefore, the possibility of controlling certain variables that may influence students' emotional states, perspectives, and discourses, such as shyness and excitement, is limited. Therefore, the research's limitations should be evaluated within this framework. Lastly, for the present study ethics committee approval was taken from Usak University, Ethics Committee for Researches on Social Sciences and Humanities with the decision numbered “2021-08” in the session dated 07/01/2021.

3. Findings

This section presents the results of the data collected through interviews as part of the research process.

3.1 Students' perceptions of “healthy living”

First sub-question of the research was about determining the views of the students. In order to find out the students' perceptions about "healthy living", they were first asked what comes to their mind when they say "healthy living" and what is harmful to their health. This was done to find out what students had learned in the relevant courses, especially in the life science course.

3.1.1 Useful things for a healthy life

Accordingly, students responded within the concepts of "eating a balanced and regular diet, cleanliness and hygiene (personal and environmental), exercising, getting a balanced and sufficient amount of sleep, and protecting themselves from disease." The related codes and categories are shown in Figure 2.

Figure 2: Students' perceptions of useful things for a healthy life

According to Figure 2, it can be seen that the students relate “healthy life” with nutrition and hygiene in general. The students have general beliefs about "consumption of healthy food and drink" and "healthy and balanced diet" within the context of "nutrition":

Buse: We should consume foods that are good for our health. Meat and meat products, fish, milk and dairy products, fruits and vegetables should all be consumed.

Fadime: We need to eat a balanced and consistent diet... We need to eat more vegetables and fruits.

Gülcan: Drinking plenty of water. Eating regularly and eating a nutritious breakfast. Before going to bed, I drink milk.

However, some students emphasize the variety and naturalness of food and beverages:

Kemal: We should prepare our meals at home.

Yalçın: We should eat eggs, cheese, and olives. We should consume yogurt and milk... We should not make distinctions between meals.

Yavuz: Eating healthy and safe foods, as well as seasonal vegetables and fruits.

In addition, pupils' knowledge of "cleaning and hygiene" issues varies. Students deal with this topic from both a personal and an environmental perspective.

Buse: We should take care of our hygiene. We should wash our hands frequently, take baths, and trim our nails. We should brush our teeth. We should keep our clothes clean and the environment clean.

Murat: Housekeeping. Cleaning our dwellings. We thoroughly wash our hands with soapy water after leaving the outdoors. paying close attention to what we consume.

Similarly, despite the fact that the associated question was not directly related to the COVID-19 outbreak era, the students responded with relevant information. Notable is the fact that the pupils are affected by the current epidemic and that they continuously repeat the warnings they hear at home, in their environment, and in the media. At the time of the study, this was a contemporary procedure, thus it was natural for the students to respond in this manner.

Gülcan: … Taking care of our personal hygiene by cleaning our teeth, bathing, cutting our nails, and combing our hair... We must focus on our personal hygiene and the cleanliness of our living spaces... In the event of an epidemic, people should not leave their homes unless absolutely essential. Allow them to wear a mask when going outside, maintain a safe distance, avoid crowded or enclosed areas, and carry disinfectants.

Some students emphasize the connection between sports and healthy living. As a result, it offers perspectives on meeting the need for daily movement or play;

Beril: Playing sports and getting some fresh air. We are taking care of ourselves.

Fadime: I enjoy jogging or walking and playing video games.

using sports equipment at home or in other settings,

Yavuz: We should participate in sports every day. I'm attempting to open and do exercises online from home.

Buse: We should participate in sports. It could be either walking or cycling. The park in front of my house has sports equipment.

Hale: Walking and running. Rollerblading, inline skating, and biking. You can also work out at home.

and caring for a sport:

Nida: I enjoy walking, cycling, and karate as a sport.

Hale: Basketball is one of my favourite sports, to say it again. I like to play hopscotch, skip and jump rope.

Some students discuss adequate and balanced sleep in terms of healthy living.

Kemal: We need to get enough sleep so that our bodies can stay strong and resilient...

Fadime: It is so important sleeping and I'm getting enough sleep...

İsmet: We must take care of ourselves... We should schedule enough time for sleep.

Furthermore, protection from diseases and microbes in general appears to be another point raised by the students:

Seda: Eating well, not getting sick, and being germ-free. Taking care of our cleanliness.

3.1.2 Things that disrupt healthy living

When asked what factors hinder a "healthy living," students cited "not eating a healthy and balanced nutrition, consuming various harmful ready-made and packaged products, not paying attention to cleanliness and hygiene, not engaging in sports, getting insufficient and unbalanced sleep, and being addicted to technology." Figure 3 demonstrates the applicable categories and codes.

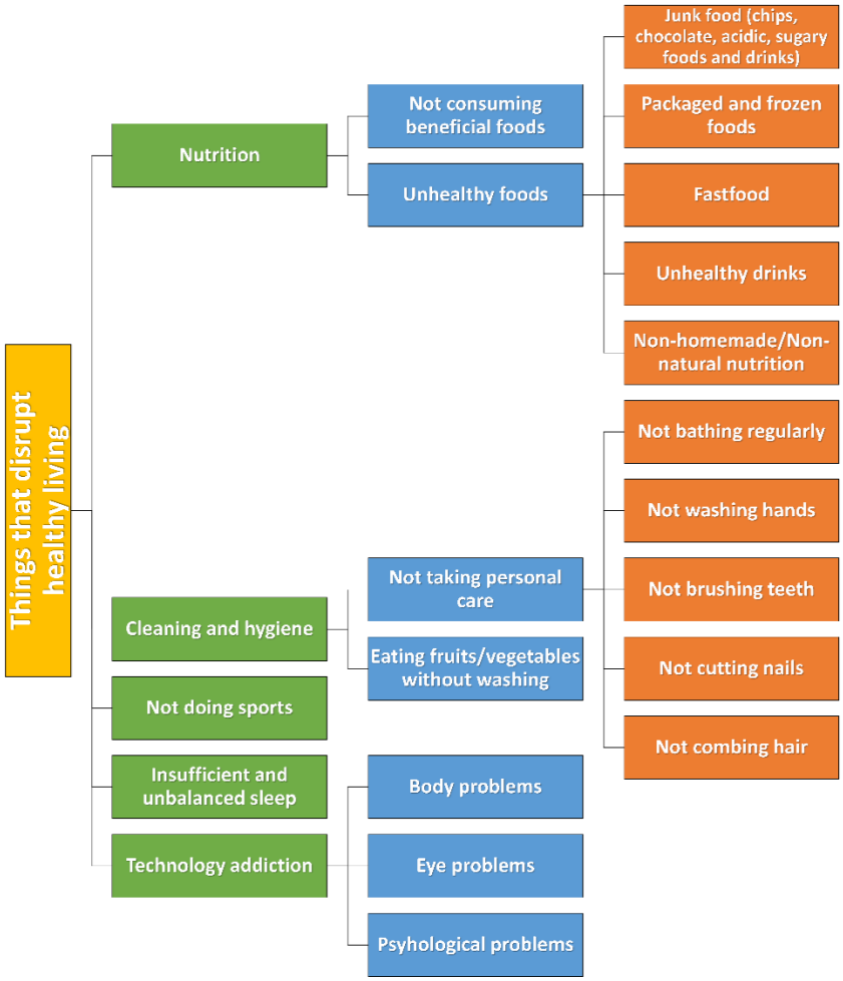

Figure 3: Students' perceptions of things that disrupt healthy living

Figure 3 shows that students are strongly aware of the factors that can compromise a healthy lifestyle. Particularly, concerns related to food and nutrition become more noticeable. Therefore, poor "nutrition" is characterized by a diet low in good foods and high in dangerous ones or a diet low in beneficial foods overall.

> Buse: Poor eating habits. Such as, for instance, deciding to eat poorly. Foods like soda, chocolate, chip, and burger chains. Prepared in a kitchen other than one's own.
>
> Gülcan: Not keeping to a regular eating schedule. The practice of eating pre-packaged food bought from stores or restaurants.

Some students voiced concerns that "not consuming beneficial foods and not eating organically, consuming dangerous snack foods labelled pre-packaged, frozen, packed, acidic, sugary, and junk food" impedes healthy living.

> Erkan: We should eat naturally instead of eating processed foods like chocolate and chips.
>
> Kenan: Consuming unhealthy foods and fast food. Utilizing boxed food...

At the same time, they indicated that neglecting personal hygiene and personal care such as bathing, dental, nail, and hair care, not exercising, and inadequate/imbalanced sleep also affect health.

Buse: Negligence in maintaining a clean environment. To avoid getting sick, always wash your produce before eating it. Ignoring your own health and well-being.
Kenan: Neglecting our personal hygiene by not cleaning our teeth, trimming our nails, having a bath, or washing our hands. Because we spread the most germs through our hands. Inactivity in sports can also impair a healthy lifestyle.
Gülcan: Neglecting personal hygiene by not washing clothes frequently or taking baths on a regular basis. Irregularly avoiding sports.

In addition, there were students who talked about technology addiction and stated that too much time with technology causes anatomical, eye, and even some psychological problems.

Hale: … We aren't taking care of ourselves by, for example, sleeping enough. Electronic gadgets are hazardous to our health. Overexposure can lead to headaches, back pain, and problems with your eyes and posture.
Özgür: Being careless about getting enough rest. Devoting an unhealthy amount of time to screen time. Too much time spent with a screen is bad for our health in many ways, including our muscles, eyes, and minds.

It can be said that students have the cognitive awareness of a healthy lifestyle. Accordingly, it can be said that students have a wide range of knowledge about healthy lifestyles based on their family, individual, and school life experiences. Looking at the students' views, it can be said that a healthy lifestyle is predominantly associated with "nutrition" and that there is a nutrition-related knowledge and understanding based on consuming what is beneficial for a healthy lifestyle and avoiding what is harmful. At the same time, it is noticeable that there is a sensitivity to cleanliness and hygiene.

More than a year had passed since the outbreak of the COVID-19 epidemic at the time the study was conducted, and there were constant reminders of precautions in digital, written, and visual media; in addition, families were deeply invested in the topic and taught their children accordingly. The fact that they provided detailed information can also be considered as one of the points to be considered. In addition, the risk of venturing out during the epidemic and the significant measures taken at the local and national levels caused people to remain at home and move very little. In this process, children attempted to satisfy their exercise and play requirements at home or in extremely restricted settings. So it is possible to explain the students' perspectives on sports, exercise, and play in this manner. Nevertheless, they are sometimes exposed to technological devices and spend their time in ways that are beyond their control. However, it can be said that students are aware of the negative consequences of excessive technology use.

In addition, it can be observed that students have interacted with nearly all nodes of the conceptual network in Figure 1, which is comprised of course gains in Life Science. This can be interpreted as a result of the learning content and topics related to healthy living that they encounter in other subjects, particularly life science. In this context, a drilling question related to the first sub-question were asked to students as "In which courses do you think you learned about healthy living?". The responses of the students are shown in Table 3. Table 3 reveals that all students prioritized the Life Science course. Nonetheless, it can be said that students do not learn only in Life Science about "healthy living". In addition, they learn about it in Turkish, Physical Education, and Physical Education and Science. It can be seen that school and course processes are very important in terms of developing "healthy life" awareness. At this point, it should be handled with a wide range of interdisciplinary approach.

Table 3: According to the students, the lessons they learned about "healthy living"

Name	Life Sciences	Turkish Language	Physical Education and Sports	Science
Ahmet	X	X		X
Ayşe	X	X		
Buse	X	X	X	
Beril	X	X		X
Erkan	X	X		
Fadime	X	X	X	
Gülcan	X			

Hale	X	X		
Kemal	X		X	X
Kenan	X		X	X
İsmet	X	X	X	
Murat	X	X	X	
Nida	X	X		X
Özgür	X	X	X	
Rabia	X	X	X	X
Seda	X	X	X	
Yalçın	X	X	X	
Yavuz	X			X
Total	**18**	**14**	**10**	**7**

3.2 Changes in life during the epidemic

Students were asked what changed in their daily lives and how the progression of the COVID-19 epidemic affected their lives. Accordingly, the responses of students were categorized according to education, health, and social life.

3.2.1 Health

Figure 4 shows how students felt about the effects of the COVID-19 epidemic and how it changed over time on their health experiences, attitudes, and habits. So, categories like "following rules and warnings about cleanliness and hygiene", "nutrition", "avoiding/protecting against disease", "sports/exercise", and "disrupting sleep patterns" were made.

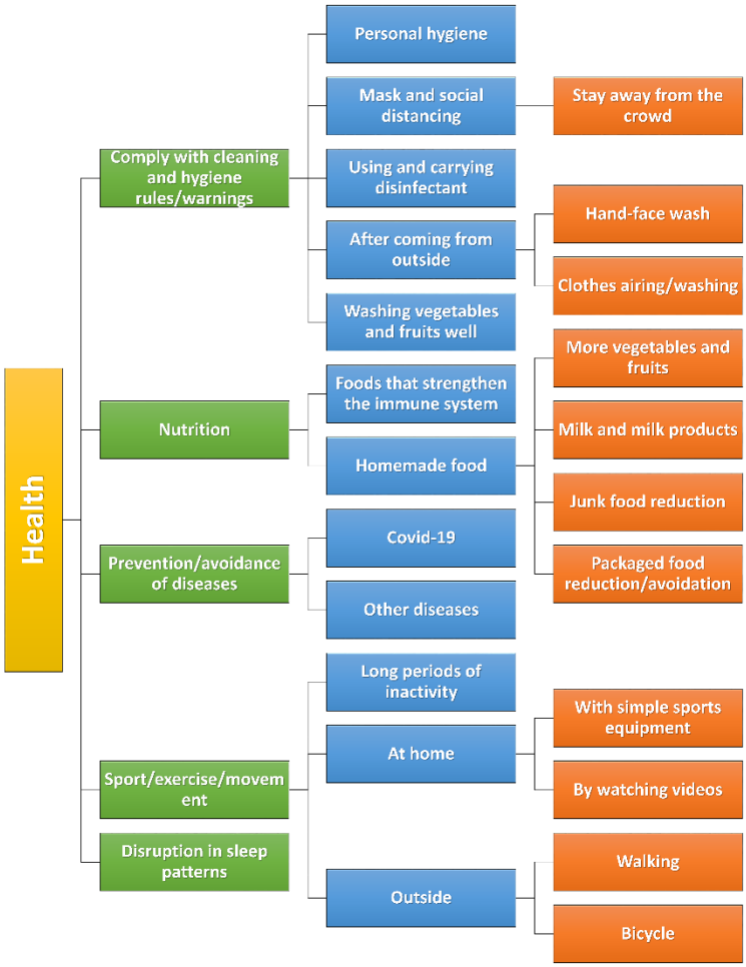

Figure 4: Changes in health during the COVID-19 process

Students are generally affected by the COVID-19 process in a wide range of health. In particular, the warnings issued in society and in the media of all kinds about the need to pay attention to cleanliness and hygiene, which are the main reasons for the spread of coronavirus, were the most emphasized by students. At the same time, individual, local and national measures to prevent the infection and spread of the virus restricted people's movement, required the observance of mask and distance rules outside the house, and brought various habits such as disinfectants. These situations have occupied a wide space in the opinions of students.

> Kenan: We've begun to tidy the house more frequently. We were using vinegar water to clean the homes at the start of the pandemic. Again, we were more concerned with taking care of ourselves. I can't go out, I can't go to the park, and I can't play with my friends like I used to.
>
> Kemal: … When I leave the house, I wear a mask and carry a disinfectant. I notice social estrangement. I maintain my personal cleanliness. I bathe, trim my nails, and maintain tidy hair.
>
> Erkan: … In order to prevent spreading the viruses to us and our family, we stayed indoors and avoided going outside.
>
> Ayşe: Due to the outbreak, we stopped going out and instead stayed home more often. Also shuttered were the schools. We avoided crowded areas and weddings. We began to focus more on keeping ourselves tidy. For instance, after leaving the house, we washed our hands in lots of soapy water and hung our clothes to dry.

The students emphasize their conscious about nutrition and nutrition styles changed in the COVID-19 process. Also some student state that quality nutrition strengthens the immune system and makes it more resistant to diseases.

İsmet: Our eating habits changed. We took more dairy products, yoghurt, and cheese. We also ate a lot of vegetables and fruit. Our teacher said that if we eat a lot of vegetables and fruits in class, our bodies will be more resistant and we will not get sick easily. He said, we should not eat foods that are harmful to our health.
Kenan: At home, we no longer eat the same things. We avoid eating at restaurants and buying packaged foods... Dinner always includes a veggie dish. By doing this, we make sure our immune system is robust. When we are ill, we focus on these in order to recover quickly from the illness.
Ayşe: ... Vitamin supplements were required to boost our bodies' resistance… We don't purchase packaged goods, I consume less junk food, and I avoid eating things like chocolate candy chips.
Gülcan: … People with poor diets are more likely to contract the coronavirus because they have weakened immune systems, suffer more severe effects from the illness, or recover from it more slowly.

The fact that students do various exercises at home not to be inactive for a long time, and even watch videos on the Internet, can be considered as an important form of behavior and attitude towards a healthy lifestyle.

Fadime: I'm attempting to work out. I ride my bike during the day and occasionally go for walks. Whenever I have the chance, I perform these. I occasionally practice sports using gym equipment at home.

In addition, it can be seen that the current process affected the quality of sleep.

Hale: The way people sleep has changed. We slept in and got up later than usual.

3.2.2 Education

During the COVID-19 epidemic, students reported that their education was significantly impacted and that they had difficulty adjusting to distance learning, which they had never encountered before. Although there is a low proportion of positive opinions regarding this situation, negative opinions predominate. Figure 5 depicts the viewpoints regarding education.

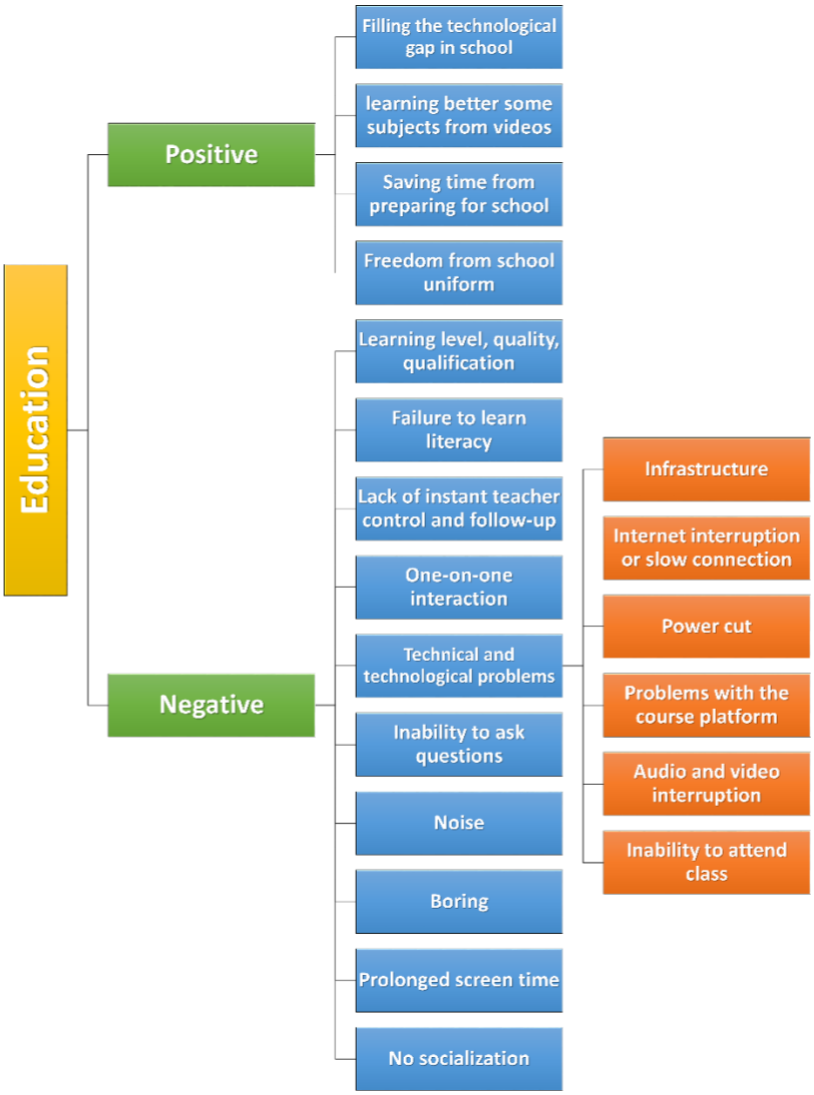

Figure 5: Changes in education under the COVID-19 process.

The students' opinions indicate that the school's technological infrastructure must be improved, that the lessons from the videos should be repeated in relation to the lessons, and that technology is not given enough space in the lessons, which has a positive effect on closing the achievement gap.

> Gülcan: It was good in some respects and bad in others. For example, our school lacks a smart board. However, in online education, the instructor uses the computer to play movies, making the course more entertaining. Some knowledge is better learned through the use of videos.

In addition, saving time getting ready for school and being able to choose what to wear are positive aspects for students. Consequently, it can be stated that the epidemic has exposed educational processes to technology and created an environment conducive to incorporating technology into education. In reality, all educational actors had to undergo technological change to adapt as much as possible to the infrastructure requirements of the time.

> Kenan: Some good, some bad. The good news is that we attended classes from home and were immediately in class upon rising. We were not wearing school uniforms; we were wearing tracksuits to class.

Regarding education, students hold rather negative opinions. The primary issues are the absence of the desired level of learning, the absence of immediate follow-up by teachers, technical and technological issues, the absence of an effective teaching environment, the disadvantages of long periods of screen time, inactivity, and the inability to interact with others. Healing the wounds caused by the epidemic process in education can take considerable time.

COVID-19 process disrupts almost all of the typical school and classroom dynamics. There are numerous instances of this, including classroom management, face-to-face interaction, socializing with peers, and satisfying the need for play and exercise.

> Buse: It was terrible because it was not face-to-face. Because school lessons were more enjoyable. By observing, we were able to absorb more information; consequently, our instructor could care more.
>
> Kenan: The downside is that learning has become more difficult, and we occasionally miss something in the subjects. Our instructor was unable to control us. Someone who has switched off their microphone-equipped camera may not be listening to the lesson. These were detrimental to learning.
>
> Ayşe: The distance education was not very good. We do many things by ourselves at home and our teacher has no control over it. We could not use the internet, it froze and we got disconnected. Sometimes our voice did not work. Since we were in the village, the electricity was cut off. Since we could not go to school, we were idle at home...
>
> Gülcan: Obviously, online education cannot substitute in-person instruction. There could be technological issues. No classroom atmosphere exists... The instructor cannot inspect our work. No longer can I see my buddies. It was preferable to attend school with them.
>
> Özgür: Sometimes we do not comprehend the material, and we do not learn effectively. It differs from the classroom setting.
>
> Hale: … When we were in school, we were able to ask our teacher about topics we did not understand. It was more comfortable, and our comprehension was enhanced. Occasionally, the sound is cut off, and we cannot hear our teacher. He is unable to hear us. The system removes us from the course or prevents us from connecting. Communicating with our peers in class might lead to a variety of complications.

In addition, during the course of the epidemic, organizations at the state, provincial, district, and provincial levels, as well as schools and classes, discovered that educational stakeholders, such as teachers and students, were not adequately prepared to integrate technology and teach technology literacy. The technical and technological issues raised by the students can be viewed as a manifestation of the existing deficits.

> Kenan: There have been significant changes to our school environment. We were unable to attend school; therefore, we were required to participate in distance education. There were numerous issues with the remote education. We weren't able to connect at the same moment, there was noise, there were disconnection issues, sometimes we couldn't hear our teacher or see the screen...
>
> Rabia: It was quite challenging to teach the lessons remotely... Our teacher was unable to supervise our work.
>
> Özgür: When we are constantly seated in front of a computer screen, our muscles ache and our eyes hurt. Our instructor cannot control us all at once.

3.2.3 Personal

Students were asked about changes in their daily lives during the COVID-19 process. The responses received are shown in Figure 6.

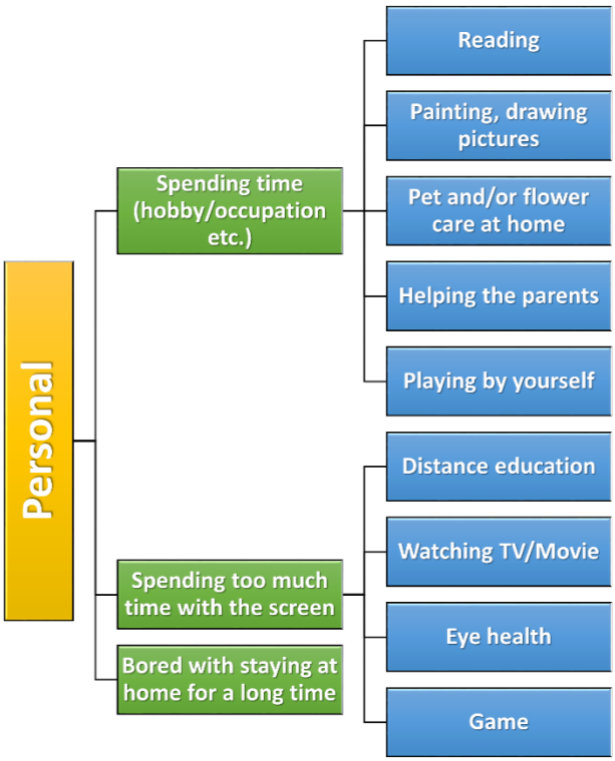

Figure 6: Changes in daily personal lives during the COVID-19 process

As shown in Figure 6, some students indicated that they pass the time with various activities. They mentioned reading books, taking care of animals or flowers at home, helping parents, painting, and playing or spending time alone as daily activities.

> Hale: I go to school from home, study at home, read books, and play with my toys. I'm giving my mom a hand. I give the plants water. I only have one fish, which I look at. I watch it sometimes.
>
> Buse: I can't hug the people I care about. I can't play games outside the way I want to. At home, I played games. So I wouldn't get bored, I watched movies and painted. I helped out my mom.
>
> Seda: When I can't go out, I get bored at home... I played with dolls and played house games. I also did my homework and studied for my classes. I was painting, reading, and sometimes turning on the TV. I was able to stop being bored this way.

Some students stated that they spend too much time in front of the screen, which has good and bad effects. On the one hand, it pushed the transition to distance learning, and on the other hand, they spent more time with the screen because they spent time with technology in different ways.

> Murat: Since we couldn't go anywhere, we spent more time on computers and tablets. This can hurt our eyes and other parts of our bodies. I play games and play with my toys when I'm not using my tablet or watching TV. I am doing my homework and reading a book.

Some students stated that they were bored at home spending time too much at home by necessity.

> İsmet: We don't go out much. Most of the time, we stay at home. So, I get bored at home...
>
> Gülcan: We spend time at home, I'm bored so much. Sometimes when I have time, I help my parents or play games by myself.

3.2.4 Social

Students' social lives can be affected by the COVID-19 epidemic process. Figure 7 shows different points of view that are similar.

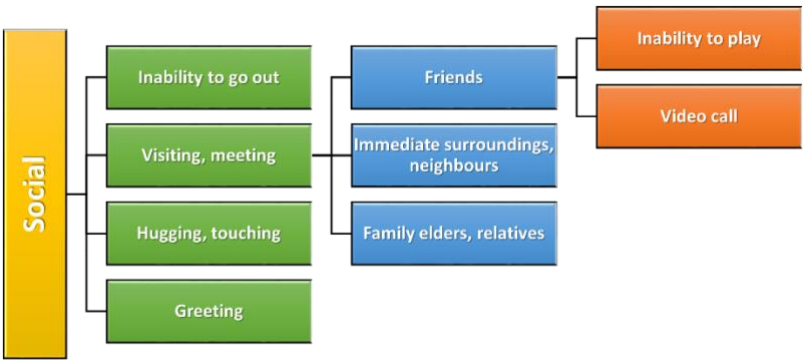

Figure 7: Changes in social life in the COVID-19 process

Students generally indicated that they were unable to meet with their friends, family elders, relatives, immediate surroundings, and neighbors.

> İsmet: We can't go see our grandparents or our neighbors. I can't go to the park or play with my friends outside. Because of this disease, I can't travel or go hiking.
> Yalçın: I've stopped hugging. How we say hello to each other has changed over time.
> Ahmet: I miss playing with my friends, hugging my teachers, and being able to walk and run without pain.
> Ayşe: We can't go see our old people because we're sick. We don't have a lot of time to go there. Even if we leave, we can't hug them because we have to keep them safe... My friends and I can't play together. I want to play with them again. A few times, we were able to get together with my friends through the internet.

They also spoke of not being able to go out of the house often enough, visits and meetings being limited, and hugs/contacts being kept to a minimum.

> Beril: It wasn't as easy for us as it used to be because of the epidemic. We couldn't play outside whenever we wanted to anymore. We had to stay home. We couldn't see our friends. We weren't able to play games. We weren't able to go to school. When we went outside, we had to wear masks and stay away from people. We tried not to touch each other when we played with our friends at school. We each sat by ourselves at our own table. We sat on opposite sides of each other. We couldn't see our friends even when we went outside.

4. Discussion and Conclusion

In this section, the conclusions drawn from the research results are presented, examined in light of the relevant literature, and recommendations are offered.

The purpose of the study was to assess the effect of the COVID-19 outbreak on primary students' knowledge, behaviour, and awareness of "healthy living" in the life science course. Students have general understanding and awareness of "healthy living," according to the findings. Notable is the fact that students provided responses regarding the balanced use of sports, exercise, sleep, and technology, although focusing mostly on nutrition and cleaning issues relating to the factors that support and hinder healthy living. In this context, it can be argued that they placed great emphasis on the results of the Life Studies course and considered that they had incorporated them in their life to a significant degree. This might be viewed as evidence that the accomplishments and subjects related to healthy living are applicable in other classes, particularly Life Studies, which students have encountered at school. Çelenkolu (2019) stated that curricula containing content about healthy living should have fundamental goals such as (I) presenting core information about healthy living, (ii) developing behavioral models that support healthy living, and (iii) fostering an awareness of and a sense of responsibility for healthy living. In this sense, healthy lifestyle awareness and health literacy appear to be issues that should be introduced as early as possible and during primary school (Yılmazel & Çetinkaya, 2016).

Nonetheless, it has been discovered in several studies that students have favorable attitudes and ideas toward the life science course, and there is a correlation between the replies of participants and the attainments of the life science course (Oker & Tay, 2019; Tiryaki, 2018). These attainments also demonstrate the efficacy of the life

science course. In addition, it should not be forgotten that the COVID-19 epidemic process necessitates an environment conducive to the consolidation and application of classroom knowledge. In fact, Aydın's study (Aydın, 2021) indicated that children's cleaning habits improved, which is significant to support the relevance of the issue and the findings of this study. On the basis of the world's most significant epidemic experiences, it is imperative that all educational experiences, particularly those in the life sciences, develop the knowledge, skills, behaviors, and awareness of a healthy lifestyle. Because the pandemic has shown that it is crucial to comprehend and apply important skills in order to acquire current and reliable health information, evaluate health, and safeguard health (Şenyurt, 2021).

Students who participated in the study discussed both the advantages and disadvantages of distance education. In the context of education, it is evident that students typically describe distance education negatively. In addition to not having to prepare for school and not having to dress, students viewed the elimination of school's technological shortcomings as an advantage of distance education. In their study, Horspool and Lange (2012) discovered similar findings regarding daily preparation for school attendance and time savings associated with commuting. In addition, students indicated that they could fill in any gaps in their knowledge by watching the instructional videos later. In this context, Fidan (2020) and Yolcu (2020) reported comparable findings in their respective studies.

As for the disadvantages, students had a difficult time adjusting to full-time distance education, which they had never before experienced, and they struggled greatly to learn. Özdoğan and Berkant (2020) view the rapid and abrupt transition to distance education as a significant disadvantage due to the occurrence of the COVID-19 epidemic and its rapid spread across many countries. Due to the technical-technological deficiencies and problems encountered by stakeholders during the implementation of the distance education process, the distance education process has assumed a more complex and problematic structure. Many issues, such as the transition to distance education around the world, the fact that countries, societies, and families have never had such an experience with education, the deficiencies and problems experienced by countries in integrating technology into education, and the lack of technological competence among educational stakeholders, make the transition and adaptation to the distance education process challenging. In this context, the literature's studies support these findings. Serçemeli and Kurnaz (2020) found that students have trouble adjusting to and adopting distance education; Pürsün, Yapar, Aslantaş and Taşkesen (2021) found that students have negative attitudes toward distance education; Taşkıran and Altan (2021), Kaya (2020), Canpolat and Yıldırım (2020) reported problems such as irregular attendance, lack of motivation, and ignoring classes; Keskin and Özer Kaya (2020), Salman and Akay (2022), Terzioğlu and Yıkmış (2022), Koç (2018), and Gewin (2020) cited classroom management, insufficient communication, noise, feedback, and immediate follow-up as problems.

In terms of “healthy living”, in addition to the full-time orientation of education processes to technology, an uncontrolled increase has been observed in the daily time spent with technology (Sun et. al., 2020). In this context, it can be said that long-term uncontrolled use of technology harms healthy life. At this point, while it harms the cognitive, linguistic, social, emotional and motor development of children (Pagani, Fitzpatrick, Barnett & Dubow, 2010), it triggers problems such as psychological stress, anxiety, anger, psychological distress, Internet addiction and depression (Dubey et.al., 2020). In terms of physical health, musculoskeletal problems (Kelly, Dockrell & Galvin, 2009; Yel & Korhan, 2015), inactivity and obesity (Sisson, Broyles, Baker & Katzmarzyk, 2010), sleep disorders (Levenson et.al., 2016) It is seen that it causes problems such as eye and vision disorders (Gökel, 2020). Therefore, it can be seen that technology, which is exposed with the COVID-19 process, is an important factor that affects “healthy living” from different aspects, both as distance education and spending leisure time.

With social isolation and quarantine periods, the process of the COVID-19 epidemic has passed. In the context of time management, that is, in a personal context, students provided differing responses regarding how these processes value their time. In this context, students responded that they play video games, watch movies and television on technology, read books, take care of animals and flowers, assist parents with housework, paint, and play video games during their time away from society, outside of class and homework. However, the COVID-19 epidemic has resulted in social isolation and quarantine, limiting children's play and exercise needs. This is especially important when it comes to gaining awareness, knowledge, and skills that improve and support life quality and health, such as utilizing rest and/or leisure time, having a job or hobby, and growing in various areas and skills.

Likewise, it is evident that the COVID-19 outburst process prevents students from socially interacting with their immediate environment. Students emphasize that they are unable to meet with friends, family elders, relatives, close friends, and neighbors and that this is a very negative circumstance. In this regard, the epidemic impedes students' socialization requirements (Aydın, 2021). It is well known that the need for socialization, relationships, and communication with close or distant individuals is crucial (Atay, 2005). Literature indicates that people's social skills improve as their social relationships and communication expand. In addition to activities like games, cooperative learning, and drama (Mantaş, 2014; Koç, 2015; Pekdoğan, 2016), contact with relatives, neighbors, peers, and friends (Tanrıverdi & Erarslan, 2015) and visits contribute to social development based on modelling and imitation learning. (Samancı & Uçan, 2017). In support of this claim, the study conducted by Sop and Demirgıran (2021) found that preschool children primarily depicted the games they played with their friends in a busy environment in their drawings about the games and that they formed friendships with their pets. Therefore, it is necessary to fill the socialization void created by the epidemic process. Consequently, addressing children's self-actualization and social needs during their preschool and school years, in their everyday lives and activities, and outside of school provides a framework that directly or indirectly promotes and supports healthy lifestyle awareness.

Clearly, the COVID-19 pandemic has affected people in various ways and from various viewpoints across the globe. This study examined the impact of the epidemic on students' daily lives under the categories of education, health, personal, and social. As components of personal and social integrity, all of these terms pertain to the concept of "healthy living" in the physical, psychological, emotional, and social senses. It becomes evident that general life and day-to-day dynamics are signfificantly affected by the epidemic process. In the context of knowledge, behavior, and awareness, it is essential that students deal with a variety of issues and their opposites, such as positive-negative and beneficial-harmful, at a level that can generate a number of codes. The continuation of online instruction may have exacerbated this situation during the epidemic and the constant exposure to news, information, and warnings about the epidemic from family, friends, and the media.

In parallel with what the global COVID-19 epidemic taught people, there has been a renewed emphasis on the need to teach healthy living awareness to young children in a variety of settings. At the same time, it is essential that all situations and problems that affect healthy living and are encountered in all societies as a result of the epidemic process be reconsidered in individual, social, psychological, and societal contexts, and that their boundaries be delineated and incorporated into the curriculum of relevant courses at all levels of education. Additionally, school, family, and community collaboration should be emphasized and strongly supported.

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Appendix A

Attainments related to "Healthy Living" in the Life Sciences Course Curriculum 2018

Grade 1 Attainments

Unit 1: Our School Life (1.1.)

1.1.8. Establishes a routine of using the toilet and cleaning.

It emphasizes how to use school toilets (going to and from the toilet, asking permission, and being sensitive to his and his friends' privacy while using the toilet).

Unit 3: Nutritious Living (1.3.)

1.3.1. He consistently takes care of himself.

Learn how to properly wash hands and faces, brush teeth, take a bath, comb hair, use the toilet, and put on and maintain everyday clothing. In addition, ensuring continuity in personal care is emphasized. Personal care requires efficient use of resources, according to the text.

1.3.2. He/she is aware of the precautions he must take to safeguard his health.

It discusses topics such as personal hygiene, dressing appropriately for the season, washing fruits and vegetables before eating them, playing sports, avoiding infectious diseases, using drugs responsibly, and the significance of visiting the dentist and doctor.

1.3.3 He/she chooses foods and beverages that are healthy for his body.

Emphasis is placed on the essential plant and animal foods that should comprise a balanced diet. While consuming a balanced diet, the health risks of discriminating food, consuming foods of unknown origin, and consuming products such as foods sold openly and/or on the street and carbonated beverages are emphasized.

Grade 2 Attainments

Unit 3: Nutritious Living (2.3.)

2.3.1. Understands the connection between healthy growth and development and personal care, sports, sleep, and nutrition

2.3.4. Explain the importance of cleanliness to a healthy lifestyle.

Personal hygiene and environmental cleanliness are emphasized.

2.3.5. Recognizes institutions and occupations that provide health services.

A great deal of emphasis is placed on hospitals, family health centres, pharmacies, and professions such as medicine, nursing, pharmacy, and dentistry.

2.3.6 Appreciates the health benefits of seasonal fruit and vegetable consumption.

Grade 3 Attainments

Unit 3: Nutritious Living (3.3.)

3.3.1. Utilizes resources effectively while providing personal care.

3.3.3. He is fed seasonal foods to preserve his health.

3.3.4 Adequate and balanced nutrition is necessary for health maintenance.

It is emphasized that a balanced diet is essential for healthy growth. Also highlighted are health issues such as obesity, diabetes, celiac disease, and food allergies. The importance of avoiding food waste is emphasized.

3.3.5. To protect his and the community's health, he follows the rules of cleanliness and hygiene in public areas.

The importance of using communal spaces, toilets, and sinks cleanly and hygienically is emphasized.