Original research

Reflections of COVID-19 virus on early childhood drawings

Raziye Pekşen Akça[1], Rukiye Arslan[2], Fatih Aydoğdu[*3]

[1] Department of Child Care and Youth Services, Kayseri University, Kayseri, Turkey
[2] Department of childhood, Batman University, Batman, Turkey
[3] Department of Child Care and Youth Services, Erzincan Binali Yıldırım University, Erzincan, Turkey

Correspondence to: faydogdu@erzincan.edu.tr

Abstract: This research is aimed to investigate the COVID-19 virus reflections in the drawings by children in early childhood. The research was conducted with 30 (K15, E = 15) children who volunteered to participate in the study from Batman provincial center in the academic year 2022-2023. In the research, the working group was determined according to the sampling criterion. In this regard, the criteria of "being in early childhood", "residing in Batman province", and "volunteering to participate in the study" were formed and taken into account in the research. In the research, the children were asked "What does the COVID-19 virus look like to you, can you draw a picture of it for me?", the picture was drawn by giving the instruction, and the data were collected by taking the story of the picture in the question. The obtained data were analyzed using QSR NVivo 10 computer program, which is suitable for qualitative data analysis. Descriptive analysis technique was used in the analyses. As a result, it has been seen that fear and anxiety are included in the children's pictures, they place public spots such as wearing masks and social distancing. Realism is included in the picture, the virus is depicted in red and green colours, but in shape it is the same in all children's pictures, which shows that this situation is also active in the isolation process of the press media.

Keywords: COVID-19, Early childhood, Picture

Introduction

Like many epidemics in history, the COVID-19 pandemic affected people of all ages in many ways, but for children the process was quite chaotic (Uğraş, Zengin, Papadakis, & Kalogiannakis, 2023). This negative process mainly affects them psychologically, socially and spiritually (Kılıç, 2020; Şahin & Demir, 2020; Üstün & Özçiftçi, 2020; Budak & Korkmaz, 2020), it also has a negative impact on education, health and economy on the scale of world countries (Kılıç, 2020; Şahin & Demir, 2020). Although the pandemic affects individuals in all age groups, children in particular have become vulnerable to the sociological and psychological effects of the pandemic because they do not have a cognitive structure as developed as adults (Özcan, Akça, & Aydoğdu, 2023).

Children who experienced social isolation due to the epidemic could not go to school during this period, could not play games with their peers, and had to stay home for long periods of time at the ages when communication and interaction were most intense (Aydoğdu & Gürsoy, 2021). In addition, in reviewing the studies conducted worldwide during the COVID-19 pandemic, it is striking that students were found to have high levels of learning loss (Donnelly& Patrinos, 2021; Angrist, et al., 2021; Uğraş, Zengin, Papadakis, & Kalogiannakis, M 2023). It has been reported

that these negative experiences cause the problems of obesity, sleep, attention deficit disorder, aggressive behavior, musculoskeletal disorder, unwillingness to participate in activities, nutrition, anxiety, depression, fear and impaired social interaction to children (Özcan, Akça, & Aydoğdu, 2023). Although these problems during the pandemic process were organized on the basis of the ability of family members to meet their basic needs for protection from the virus, they also brought with them many obligations, worries, and concerns.

In order to be able to see the traces of this process in a child's psychological world, to ensure the embodiment of his feelings, to reveal the existing conflicts in his inner world, the pictures drawn by this child are very valuable to be studied on. In other words, drawing makes it easier for a child to cope with the emotions created by a crisis that may occur in many areas (Çaykuş & Mutlu Çaykuş, 2020). These drawings, which provide rich information about this child, also contribute to the experts in terms of personality, intelligence, environmental perception, revealing the inner world of the child.

Drawing is a projective method that children enjoy doing, express themselves more comfortably, use colours freely, make the touches they want, position their drawings, and attach meaning to lines (Pekşen Akça & Baran, 2016; Pekşen Akça & Aydoğdu, 2021). It is very important to use painting in terms of uncovering complex concepts that are not explained in verbal or written form, especially in early childhood, the years when a child's existing potential is revealed and reaches its maximum level and is crucial for development (Yıldız et al., 2016; Arslan, 2022).

Children's pictures are important source that provides the information about how much and how the child is affected by the events and situations that are taking place in and around his or her inner world, what he or she thinks about them, and how he or she perceives what is taking place. After all, a painting is a product that is created as a result of the emotions, thoughts, and perceptual abilities of the child. Tracking a child's cognitive development through pictures and tracking the effects of the social environment on the child (Yu & Nagai, 2020; Batı, 2012) are among the sources that provide information about the environment in which he lives and his life (Akman, 2014). Therefore, for decades (Yu & Nagai, 2020; Lambert, 2005), drawings and paintings made by children in early childhood have attracted the interest of researchers. Fighting the COVID-19 pandemic can not only improve health conditions but also have a positive impact on educational, economic, social, and psychological areas. These studies are carried out to prevent the increase of the epidemic. However, they also contribute to reducing the psychological impact on children (Aydoğdu & Gürsoy, 2021). For these reasons, evaluating children's perceptions regarding the epidemic will be able to create resources to be applied to reduce the effects of the epidemic.

As a result, in addition to being a chaotic process that shapes social isolation and daily life, the pandemic process has become an indefinable concept for children in terms of the reality of closing and quarantining homes (Pekşen Akça, 2022). In their drawings, the effects of the pandemic process, directly or indirectly, affect the children's current world. In addition to the worries and concerns that are reflected in the drawings, the concept of death is often part of the story in the picture. It is believed that the child, who is part of this concept macro system, may have acquired it through the loss of family members or one of their relatives or someone else. They may also have received it from the real/unreal news contained in the press media organs. All children reflect a part of themselves through the pictures they draw. They express many feelings and thoughts through pictures that they cannot express verbally (Whaley & Wong, 1999; Tielsch & Jackson-Allen, 2005). There are many studies on determining children's perceptions of the COVID-19 virus through painting. Güngör et al. (2022) determined that 39-72 months old children included concepts related to COVID-19 (mask, distance, cleaning, etc.) in their paintings, and they reflected their longings with colours due to the deprivation they experienced. Sine Nazlı and Çat (2021) had 112 children aged 6-9 paint a "COVID-19" themed painting. As a result of the study, it was found that the pictures made by the majority of the children (110) were gathered under negative themes; 39.2% of the children pictured the virus subject as the most prominent element. It has been concluded that the longing for games and social life is also among the prominent themes. Idoiaga et al. (2022) found that in the pictures they drew 345 children aged 6-12, they symbolized representations about the COVID-19 virus and its consequences, and comprehended the precautions and social rules related to the pandemic. Duran (2021), in his research in which he examined the pictures drawn by children in the 3-5 age group regarding the COVID-19 epidemic, determined that they were nervous and worried about the virus and were afraid of the virus. It has been determined that children know what the virus is, how the virus is transmitted to people and how to protect themselves from the virus (wearing a mask, eating healthy, washing hands, staying at home and maintaining social distance). In addition, although their home is the safest place, it is reflected in his drawings that they miss their school, friends and park games. With this study, research was carried out once again in a different region and with a study group. Especially children between the ages of 6-8 could not go to school due to the epidemic and were deprived of social interaction. For this reason, the determination of the elements in the drawings of this age group regarding the epidemic will contribute to taking measures against the negative experiences of children in this age group, such as the epidemic.

The aim of this research is to find out children's perceptions about the COVID-19 virus in their drawings by means of pictures, which is a projective method. In this direction, the drawings of children in the 6,7,8 age groups and the sub-objectives were determined:

• What do children aged 6,7,8 draw about the COVID-19 pandemic?
• Do the themes and characters used by children aged 6,7,8 in their drawings related to the COVID-19 pandemic differ from each other?

Method

Data collection tool should be carefully selected in studies with children. Children are different from adults, and to understand their lives and views requires using different methods that are appropriate for their competencies, knowledge, interests and contexts. Using different verbal and visual methods to make children feel comfortable provides the most accurate data. Drawing Technique is widely used as a data collection method in education and psychology. This method allows children to reveal their emotions and thoughts through the pictures they symbolically draw (Yazıcı Arıcı, Kalogiannakis, & Papadakis, 2023). The content and quality of the lines in the pictures reveal children's perceptions of themselves, and the individuals they communicate with. Internal events and many experiences, emotions and perceptions appear in a single visual expression in the pictures (Yazıcı Arıcı, Keskin, Papadakis & Kalogiannakis 2022). In short, pictures are used to discover children's views and experiences. The advantages of using painting technique in the research with children are that they provide nonverbal expression and that children are active and creative when drawing. Many children are also familiar with painting activities and can change and add drawings as they wish (Einarsdóttir, 2007). It has been an important factor in the use of this technique on preschool children who are more active in painting and express their feelings and thoughts more comfortably with pictures (Yazıcı Arıcı, Keskin, Papadakis & Kalogiannakis 2022). The instruction" What do you think the COVID-19 virus looks like, can you draw a picture for me?" was used in this research.

Research design

A qualitative research method was used in this study as the case scientific design.. The focus of this pattern is on phenomena that we are aware of but do not have a deep and detailed understanding of. Phenomenon can appear in various forms in the world we live in, including events, experiencing, perceiving, orienting, concepts, and situations (Yıldırım & Şimşek, 2013).

Working group

The research was conducted in December-January (10.12.2022-30.01.2023) with 30 children who volunteered to participate in the study in the city center of Batman in the academic year 2022-2023. The working group of the study was also determined by criterion sampling, one of the purposive sampling methods, within the framework of qualitative research approach. The basic structure of the criterion sampling method is to study situations that meet predetermined criteria. The criteria can be created by the researcher, or a previously prepared list of criteria can be used. A set of predetermined criteria was used to select this study group (Yıldırım & Şimşek, 2013). In this context, the study group was formed by considering the criteria of being 6,7,8 years old, being a resident of Batman province, and voluntary participation in the study in the research. The study was conducted on a voluntary basis according to the basic criteria. The principles of ethics and confidentiality were observed. In this sense, a total of 30 children formed the working group. They were equally distributed according to gender. Confidentiality was ensured by giving the children the codes G1, G2, B1,..., and B15

Table 1 provides demographic information on the children who comprised the study group.

In Table 1, we can see that the distribution of children by sex is the same (15). The proportions are equal to 50%. It is observed that the children are distributed according to age, with the same number.

Table 1. General characteristics of the children studied

Demographic Information	f	%
Gender		
Girl	15	50
Boy	15	50
Birth year		
6	10	33.3
7	10	33.3
8	10	33.3
Family Lifestyle		
Nuclear family	15	50
Extended family	15	50

Data collection method

In order to have a positive communication with the children during the application process, the practitioner had two home visits for each child on different days. Before the start of the research, the mothers of the children were interviewed during the first home visit and the mothers were informed about the research in detail. Mothers who accepted their children's participation in the research were made to sign a consent form. We planned a play activity with the children, had a meeting with the children before the painting study, short notes were taken in accordance with the information obtained, coalescence with the children was provided. The children were given pastels, dry paints and felt pens, white A4 paper and asked to draw according to the instruction: "What do you think the COVID-19 virus looks like, can you draw a picture for me?" No time limit was set. The stories about the pictures made by the children who completed the painting study were recorded individually by the researcher in the form of 'the story of the picture'. Codes were given and written to children (G1, G2, B1, B2). According to the instructions, 30 (G=15, B=15) picture studies were completed. The children's stories related to these pictures were recorded. Since drawing is visual data, this technique has been an important factor in the study, providing critical data on how children see events or situations.

Analysis of data

The obtained data were analyzed according to the content analysis using the QSR N-VIVO 10 program. The main purpose of the content analysis is to reach the concepts in which the collected data can be deciphered and the relationships between them. In the content analysis, similar data were brought together within the framework of certain concepts and themes and were arranged and interpreted in such a way that the reader can decipher them. For this purpose, data were analyzed through the stages of data coding, theme finding, codes and themes arrangement, and findings definition and interpretation (Yıldırım & Şimşek, 2013). Classifications were made by coding the data and themes were arranged within these stages. The findings were defined and interpreted after these procedures.

Within this framework, a code list was created by analyzing the children's perceptions of the COVID-19 virus in the pictures they drew. By examining this code list, themes were identified according to the pictures the children drew as a result of the instruction.

Results

Themes obtained as a result of the research were formed as "Giving Space to People," "World," "Hospital," "Mask," "Virus," "Knife/Gun," and "Giving Space to the Elements of Nature" for children. The model for this policy is shown below.

When the model of the elements related to the pictures drawn by the children was examined, it was found that the children included people in their drawings (13).The COVID-19 virus was most often included in their drawings (56), mask (25), world (15) and elements related to violence (knife/gun=4). However, it was noted that they included elements that made them feel complete (18). In addition, the healing effect of nature on people was emphasized. People, houses, trees and clouds were included in the drawings. Furthermore, it can be seen that they try to complete the pictures by including different objects (cups, chairs, cupboards, hearts, etc.) in the drawings to create a composition from the inside. Although the main theme of the study is the virus, it is evident that the concepts of mask wearing, social distance, sick people are at the forefront of the drawings. Similarly, a study found that although the
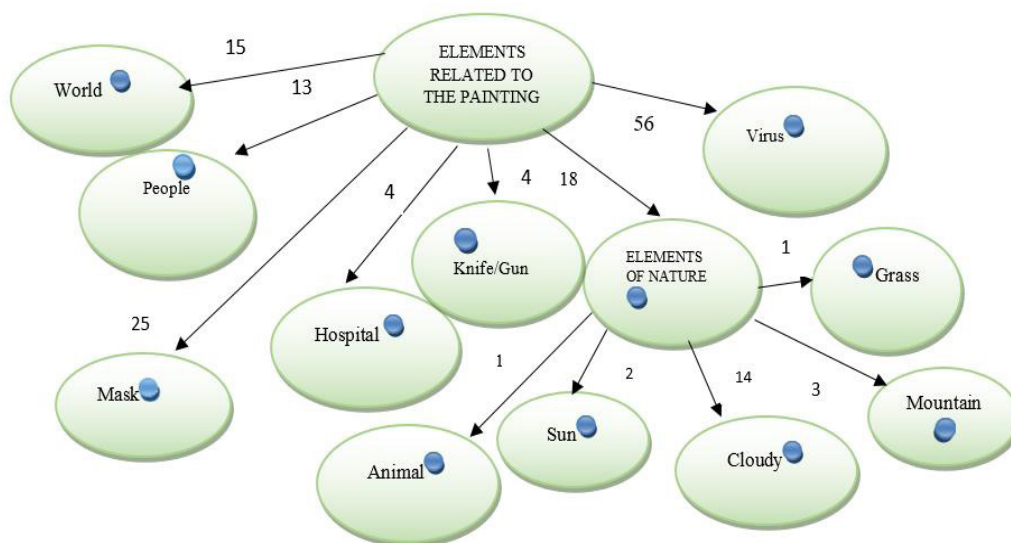

Figure 1. Model of elements contained in children's pictures

main theme was virus, children included the concepts of "mask, social distance, sick, contagious" in their drawings (Sine Nazlı, & Çat, 2021). Complementary statements to these images are given below.

Table 2. Results on elements in children's drawings

Elements in the Picture	GİRL		BOY		TOTAL	
	f	%	f	%	f	%
Giving Space to People						
Yes	5	33,3	8	53,3	13	43,3
No	10	66,6	7	46,6	17	56,6
Including Other Elements						
Hospital	2	4,3	2	3,5	4	3,9
Mask	12	26,1	13	22,8	25	24,3
Virus	22	47,8	33	57,9	56	54,4
World	10	21,7	5	8,7	15	14,6
Knife/Gun	-	0	4	7	4	3,9
Nature Elements						
Sun	-	0	2	11,8	2	9,5
Animal	1	25	-	0,0	1	4,8
Cloudy	3	75	11	64,7	14	66,7
Mountain	-	0	3	17,6	3	14,3
Glass	-	0	1	5,9	1	4,8

Figure 2. Examples of the human figure in child drawings

In general, the virus was drawn in green and red colours in the pictures drawn by the children about the COVID-19 virus. If we look at children's drawings, the paper is vertical, children use colours in their drawings, G1 and B3 drawings contain pictorial complementary elements (heart, object, etc.), it seems that the whole paper is filled with drawings. In addition to the presence of signs related to human figures, self-confidence, competence perception, self, interaction, sociality in children's drawings (Bombi, Pinto, & Cannoni, 2007), it can be said that they maintain social distance, especially in the drawings of B1 and G7. In the pictures drawn by the children, it can be seen that G3 is generally anxious and sad. While this is reflected in the picture, the expressions related to this picture and the feelings show parallels. Below are the reference phrases related to these pictures:

G1: "A virus is a bad thing that has taken over our world. It is dangerous enough to imprison us all in our home".

G3: "If the virus stays away from us, we will not get sick, it will not reach us, but we will always be together as a family, we are strong".

B1: "If we don't wear masks, if we don't wash our hands, the virus will make everyone sick, if our father is sick, we shouldn't go near him either, otherwise we will die".

G7: "Our nature always protects us, purifies us, as long as we don't pollute it, if we follow the rules, everything returns to normal, we play with our friends".

By introducing the COVID-19 virus into our lives, mass media news has reshaped our social life and paved the way for forming a collective perception. In addition, if the situation is considered on the scale of children, children who have difficulty in deciphering the virus because they cannot see the virus concretely (Taşdemir & Efe, 2023) but they can reveal the depiction of the virus (with the help of the relationship between reality and creativity) through the inclusion of violent elements. In order to fight this complex process, it can be seen that they try to show their emotions through pictures. Below are the images that reflect this situation. They are also accompanied by reference sentences.

Of the children, B14 reportedly said: "Viruses are always bad, they make people sick and kill them. But superhero doctors always defeat them. They have virus-killing weapons". The doctors are also seen wearing red outfits in the picture. It is stated that the use of red colours in children's pictures is an indication of temporary anxiety and emotional tension in the environment where the child is (Sine Nazlı & Çat, 2021). Furthermore, it is stated that the red colours can reflect a serious illness, such as a vital issue, a problem, an explosion of emotions, or signal danger (Furth, 2002).

B5 expressed his feelings as follows: "The virus is a very evil being, it has come to kill everyone in our world, but our world will not give up, it will fight... People don't want to die anymore, everyone is crying, I miss my grandmother for example, I can't kiss her, I can't visit her, I only have phone conversations with her". Painting is a therapeutic communication technique that contributes to the visualization of perceptions and emotions and is a more effective method than verbal expression in communicating events that affect children emotionally (Şen Beytut et al., 2009).

While the COVID-19 virus reflected in the children's drawings has a round, protruding and happy expression (G1, G7, G8, B1, B5, B14, B6, B8, B9, B10, B11), the world/people seem sad, anxious and afraid (G2, G3, B6, B9, B8, B5, B11). Below are the pictures which are a reflection of this situation and the reference sentences in relation to these pictures.

B6: "The world is suffering because its people are dying and getting sick, but soon the vaccine will be found and the world will be fine. The viruses will cry".

B9: "If everyone in the world wears a mask, the virus won't get infected, but if they don't wear a mask, our world won't be able to heal, everyone will die because the viruses win, look how they are laughing".

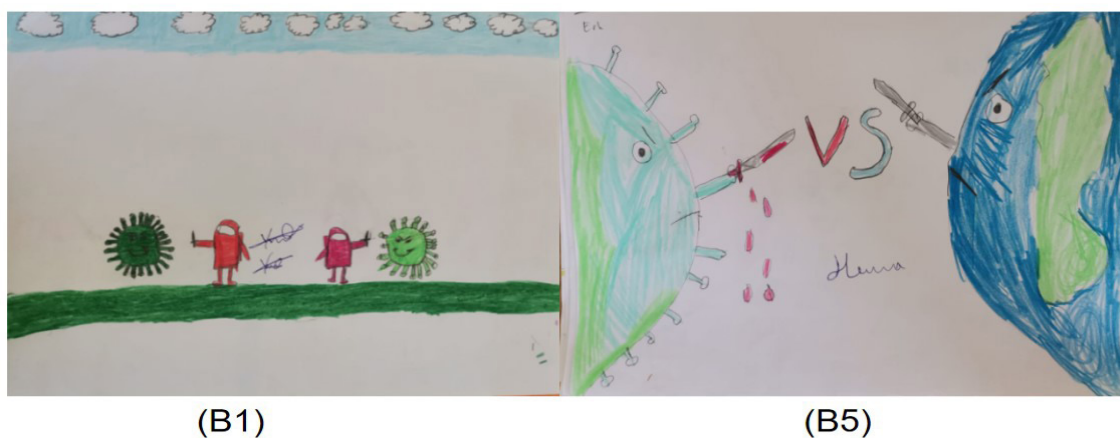B11: "Viruses are all over us like aliens. The world is trying to get rid of them".

(B1)   (B5)

Figure 3. Examples of violent elements in children's drawings

G2: "The girl is surrounded by monster viruses, I don't have a mask, help, Mom, save me, she's crying because I'm going to die".

It is known that the COVID-19 pandemic has caused intense fear and anxiety among family members who have begun to live in isolation. Details can be found in the children's pictures in the public spots created for the whole society to overcome this difficult process, the frequent inclusion of slogans in the press publications. This situation especially shows that the children are trying to hold on to life through the slogans written in their drawings, even though they contain despair and sadness (Sine Nazlı & Çat, 2021).

"Wear a mask"

"Let's protect the world"

"Life fits in the house"

"Social distance" are the slogans reflected in the children's drawings. The drawings and expressions related to these situations are listed below.

Note: "Maske Tak"="wear a mask" "Dünyamızı koruyalım" ="Let's protect the world", "Tehlikede" ="in danger" means.

B10: "If we wear a mask, the viruses will get trapped, they will never get out and we will not get infected".

G8: "We have to wear masks to protect our world and ourselves from the viruses, and if there is no distance between us, all of us will die".

B8: "We have to wear a mask, otherwise we are going to die, all of us are going to die".

G5: "If everyone is at a great distance from each other, the viruses will not go to anyone else, they will not be infected, they will be protected in our world".

Conclusion and discussion

It can be said that there is realism in children's drawings. It reflects that they carefully follow the rules of reality. In addition, it can be said that there is a supernatural quality to their drawings, and that their colouring is appropriate to the objects they are drawing. In other words, the child is
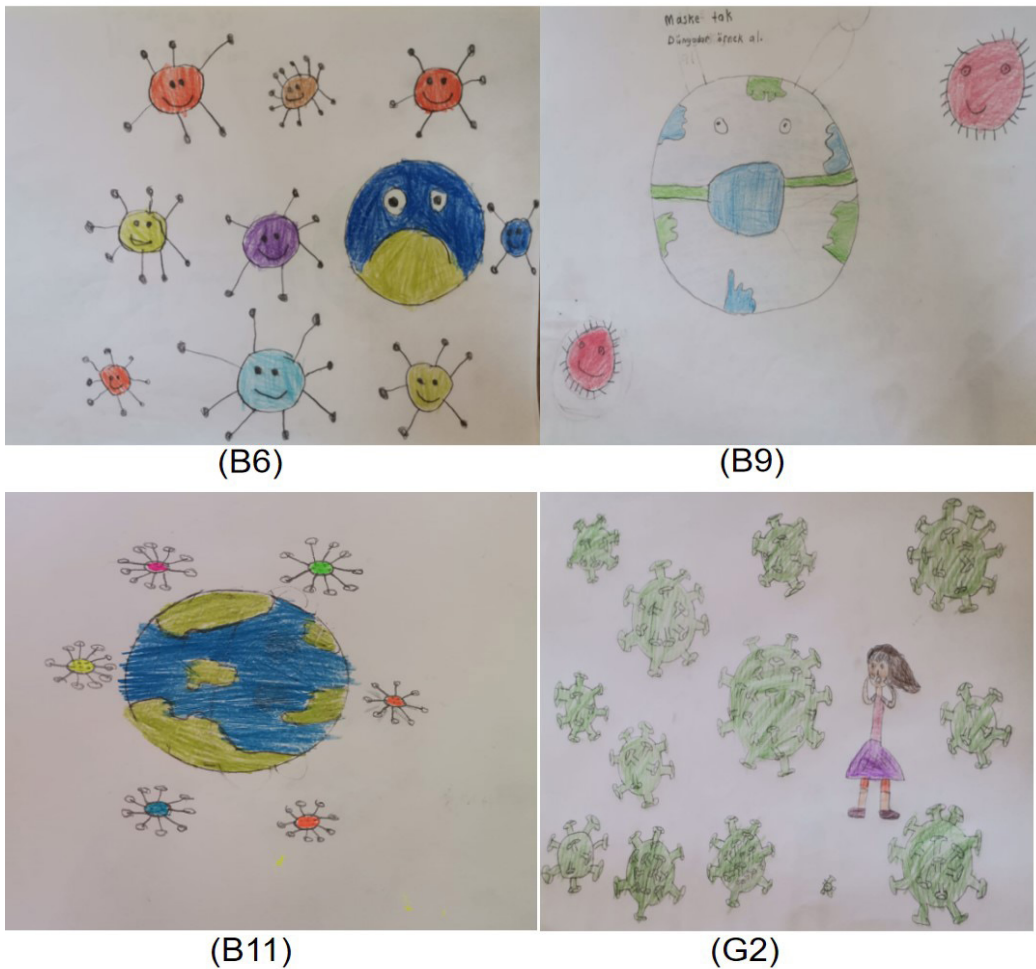

Figure 4. Examples of children's drawings depicting the COVID-19 virus

trying to create a representation of each object that is recognizable and realistic. The vital reality is the original reality of nature, that is, the objective reality, and the mental reality is the imaginary reality that is the creation of the individual (Ölçer, 2019). Based on this, it can be said that the world that children often depict in their drawings is consistent with the visuals presented to us by celestial science and is drawn realistically.

We can see that the children use proportions in drawing, especially to make what they want to emphasize appear larger. It can also be said: children try to give a certain meaning by using colours in their paintings. The colours children used in their pictures have specific meanings. However, the intensity of the colours used is also important. Intensity refers to the colours' brightness, vitality. The colours green in children's paintings generally refers to growth and development. However, it is also important whether it is dark green or light green. In other words, each colours can have different meanings depending on its use in the child's pictures (Malchioldi, 2005). However, it

is difficult to make a definitive judgment in this sense. It should also be remembered that the meanings of colours vary from child to child.

Violence is a growing social problem in the world. It can be seen in all areas of human life. In some studies that have been carried out on this subject, it is shown that qualitative analyses are carried out through the examination of the pictures that children make and the stories they create about the picture in order to reveal how children perceive violence (Rezo & Bosacki, 2003). The use of knives and guns as an element of violence in children's drawings (this situation is also depicted in the story of the picture) is an indication that this situation should be reviewed, especially in the family dynamics in which the child lives. Especially during the pandemic process, uncontrolled mass media/ telephone, etc., it can be said that the increase in the frequency of use of applications may have revealed this kind of danger for children. In fact, a study conducted by Pekşen Akça (2022b) concluded that mothers allowed uncontrolled and unsupervised use of digital applications
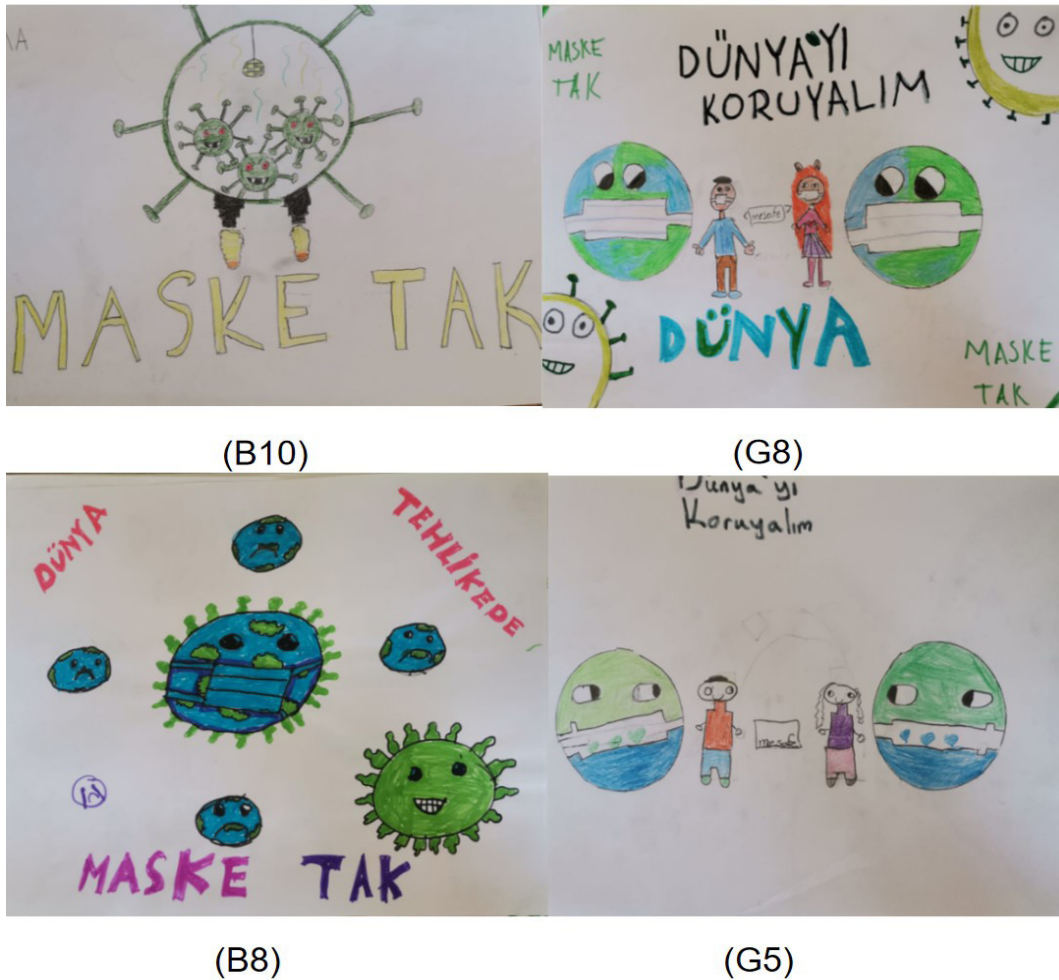

Figure 5. Examples of slogans reflected in child images

during the pandemic process, even though it was known that it had a negative impact on children's development and mental health. They used these devices as electronic caregivers because they had to.

It can be seen that children include the slogans of the public spotlight in their drawings, especially the mask. Social distance is depicted and hand washing is conveyed in the story of the picture. In fact, a study by Tiryaki et al. (2021) tried to determine the thoughts of COVID-19 with open questions and pictures drawn by children whose parents are health workers. It is stated that the children are thinking about the daily living conditions that have changed along with the pandemic, such as the use of masks and disinfectants, washing their hands, as they were supposed to do in the drawings. However, it is also said that the children are worried about the pictures that they are drawing and the expressions that they are using, and that they are worried about their parents.

It can be seen that children believe in the power of nature no matter what. They give place to the elements of nature in their paintings. On the one hand, children imitate nature, the sky, trees and green grass; on the other hand, it can be said that they follow the subconscious. Pictures have an important place in terms of reflecting their growth environment and psychological state. It should be remembered the fact that children are good observers shaped by the attitudes that people show towards what happens around them. In these and similar extraordinary situations, great sensitivity should be shown to children at the family and community levels. Pictures express their emotions with the symbols used by children. At the same time, they also give us information about their developmental emotions (Pekşen Akça, 2022a). That's why it is very important to talk about the pictures that the child draws in order to support him or her.

Recommendations

It has been determined once again with this research that children reflect the emotions they experience to the pictures. Especially with young children, the epidemic, etc. he may not perceive many situations related to negative lives. Children will encounter epidemics or other negative experiences throughout their lives. Therefore, the epidemic to children, etc. their feelings should be determined by making pictures about their negative experiences, and they should be supported to cope with these feelings. It has been determined that the epidemic causes anxiety, stress and sadness on children. In order to overcome the feelings that children experience about the epidemic, they should be talked to and given information about the epidemic process. Researchers are investigating the outbreak, etc. by having younger or older age groups draw pictures about negative experiences, it can determine the effects of these negative experiences on children.

Limitations

The children were introduced and interacted with before the pictures were made. However, the fact that the paintings were made in a home environment may have prevented children from painting comfortably. For this reason, it is considered important to conduct such applications in an independent environment in order to achieve better results. The general health status of the children at the time of drawing, and whether they encountered a negative situation were not taken into account. For this reason, some children may not be able to fully reflect their emotions on the pictures.

Author's contribution

RPA: Methodology, review, conceptualization. RA: Data collecting and data analysis, writing. FA: Writing, editing, investigation

Conflict of interest

The authors declare no conflict of interest.

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