





Examining Children's Perceptions of Covid-19 Through Drawings: A Case Control Study

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ABSTRACT

Objective: The objective of the present study was to examine the perceptions of children regarding the Covid-19 pandemic through their own drawings and to reveal the impact of the pandemic on children's psychological dynamics through an examination of their perceptions related to the pandemic and draw-and-tell interviews.

Methods: Participants were 60 children aged 6–10 years (30 children diagnosed with COVID-19 in the last six months and 30 healthy children not diagnosed with Covid-19) and their parents. Children diagnosed with COVID-19 were recruited from a state hospital, whereas children in the non-Covid-19 group were recruited from a kindergarten. The children's experiences were examined using drawings, the Children's Apperception Test (CAT), and draw-and-tell interviews. The study employed descriptive and content analysis approaches.

Results: In the descriptive analyses, it was observed that the frequency of colour use was less in the Covid-19 group ($p < .001$) while emotional difficulties such as introversion, regression, and insecurity were higher in this group than in the non-Covid-19 group ($p < .05$). Content analysis revealed that the vital threats posed by the pandemic negatively affected the mental health of all children. Additionally, the external reality experienced by children during the pandemic prevented them from accurately reflecting their actual mental functionality in their responses. Upon comprehensive evaluation of the study results, it was determined that children in both groups exhibited signs of fear, anxiety, depression, aggression, insecurity, introversion, and regression.

Conclusions: The findings of the present study may be beneficial for understanding the psychological effects of the Covid-19 pandemic on children from their own perspectives and may have implications for clinical practise regarding the support that should be offered to children. In psycho-social support interventions for children, it is of critical importance to address the anxiety that may arise from being intensely present and intertwined with their parents, as well as their sensitivity to separation and dependency.

Keywords: Children, Covid-19, Drawing, Anxiety, Depression, Psychosocial Influence

INTRODUCTION

Coronavirus (also known as the coronavirus disease 2019, or Covid-19) emerged in Wuhan, Hubei province, China, in December 2019. World Health Organisation declared a pandemic after it spread rapidly around the world. The disease is caused by the SARS-CoV-2 virus and presents as fever, cough, and difficulty in breathing. The virus is known to be highly contagious, with the potential for transmission from person to person through the release of droplets into the air during

the act of talking, sneezing, or coughing. Touching a surface contaminated with the virus and then touching your eyes, mouth or nose can also spread the virus. The rapid person-to-person transmission of COVID-19, coupled with its increased risk of mortality, necessitated the urgent implementation of countermeasures (4, 5). During this period, quarantines were implemented in order to minimise the risk of transmission of the novel coronavirus (6). In accordance with the measures implemented in Turkey to combat the virus, similar to those implemented globally, workplaces and educational institutions

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suspended their operations and individuals were required to quarantine and adhere to social distancing guidelines (7). These measures have resulted in a range of psychological difficulties, in addition to social and economic challenges. The risk of being diagnosed with the disease and the anxiety and fear of contracting the disease affect children and adults alike (8). In addition, various stressors have been identified as negatively affecting the psychological health of children, including prolonged periods of home confinement, frustration, boredom, a lack of knowledge about the disease, isolation from classmates and teachers, a lack of personal space at home, and economic difficulties experienced by families (9, 10). The disruption of daily routines during the pandemic particularly affected young children. In various studies, it has been demonstrated that the majority of children have encountered difficulties in adapting to the measures implemented during this process (11-14) and have exhibited signs of depression, anxiety, and trauma, as well as feelings of fear, frustration, and helplessness (15-17).

During the COVID-19 pandemic, many parents had to reorganise their lives to work at home while caring for their children (18). When family life during the Covid-19 pandemic is examined, one of the positive effects that emerged is the increase in family communication, whereas unrest in the family, psychological problems, and problems related to education and economic conditions have been identified as negative effects (19). In addition to the stress caused by the pandemic, parental stress related to the family has led to increased levels of anxiety in children (20). Although this situation has made it difficult for children to cope with anxiety, it has also increased the internal tension of children who cannot be comforted by their mothers (21). Children whose routines have been disrupted have become even more vulnerable to the effects of the pandemic; in other words, the impact of the pandemic on school-age children at a time when they are playing, learning, and developing peer relationships has hindered the psychological progress of these children. On the other hand, during the pandemic, some parents ignored or were unaware of their children's problems because of their own psychological difficulties (22). It is believed that this situation may have increased the children's sense of loneliness and frustration during the pandemic. According to Winnicott (23), the mother's need for inclusion and care shaped the child's sense of self. The developmental environment that mothers create for their children forms the basis for the child's personality development. The child requires the presence of a caregiver to grow. The most important source of support for the child in difficult situations is the person who performs the "good enough mothering" and "holding" function, namely, the mother. Similar to Winnicott's (23) concept of "holding," Bion's (24) concept of "inclusive functions" refers to a mother who has the ability to alleviate the child's negative experiences, make sense of all these experiences, and make them manageable for the child. The mother's fulfilment of this function is important for their child's internalisation of the same function and effective use of defence mechanisms to cope with feelings of frustration, aggression and sadness caused by external reality.

In this context, the absence of a caregiver or the inability of caregivers to perform such functions makes it more difficult for children to cope with negative experiences (25).

The impact of the COVID-19 pandemic on children extends beyond the psychological reactions observed in adults. Children lack the capacity to employ appropriate emotional responses and coping strategies in different situations. Consequently, when children are exposed to the same stressors as adults, they experience heightened stress and greater trauma, and the process they experience has an impact on the foundations of their personality development. The effects of the pandemic on adults have been extensively discussed in numerous studies. On the other hand, the number of studies focused on the effects of the pandemic on children is very limited, and they are largely based on descriptive findings that rely on information obtained from adults rather than children. However, it is important to examine the subjective perceptions and psychological processes of children based on the findings obtained from the children themselves. One of the most effective ways for children to express themselves and reflect on their feelings and inner world is through drawing. Children's drawings are a more robust form of expression and communication than words in understanding their inner world of children (26). As posited by Yavuzer (27), children's drawings represent a highly effective instrument for the comprehension of emotions and can be employed to gain insight into children's inner worlds in the context of psychological assessment. To mitigate and eradicate both the immediate and long-term psychological consequences of the pandemic on children, it is imperative to comprehend children's perceptions of the pandemic and assess the impact of the epidemic on children's psychological development. In accordance with this purpose, the objective is to examine the perceptions of children regarding the Covid-19 pandemic through their drawings, as well as to reveal the impact of the pandemic on children's psychological dynamics through an in-depth examination of their perceptions related to the pandemic and draw-and-tell interviews.

METHOD

Study Group

The study participants were children between the ages of 6 and 10 years and their parents. The participants were selected via the criterion sampling method, which involves selecting a sample of individuals who possess characteristics deemed relevant to the problem in question (28). The main inclusion criterion for this study was a confirmed diagnosis of COVID-19 within the last six months. In this context, the COVID-19 group consisted of 30 children diagnosed with COVID-19 and their parents, while the control group included 30 healthy children and their parents who had not been diagnosed with COVID-19. Consequently, the study included 60 children and their parents (55 mothers and 5 fathers). In addition to the aforementioned inclusion criteria, participants were required to volunteer to take part in the study, have a typically developing child in the specified age range, and complete the study questionnaire in its entirety. Children with special needs and children hospitalised

or undergoing intensive treatment due to COVID-19 were excluded from the study.

Children diagnosed with COVID-19 were recruited from a state hospital in Bursa, whereas children in the non-Covid-19 group were recruited from a kindergarten in Antalya, Türkiye. The rationale behind selecting participants from two distinct cities was to employ an accessible methodology given that data collection was during a pandemic. In accordance with the established protocols, individuals who were not affiliated with educational institutions were prohibited from entering the schools. For this reason, a researcher who was a pre-school teacher in Antalya collected data of children who were not diagnosed with COVID-19. On the other hand, other researchers, who were medical doctors working in a hospital in Bursa collected data on children diagnosed with COVID-19.

Data Collection Instruments

The study employed a variety of methodologies to examine children's experiences, including the analysis of drawings, the completion of an Individual Information Form, the administration of the Children's Apperception Test (CAT), and the conduct of draw-and-tell interviews.

Individual Information Form: The form was prepared by the researchers and administered to the parents to obtain sociodemographic information about the children and their families. Included on the form were questions about the child's age, gender, number of siblings, presence of any chronic disease other than COVID-19 among family members, and family income.

Children's Drawings: In this study, children were asked to draw two separate pictures of their families during the COVID-19 pandemic. The utilisation of family drawings is justified by their status as a projective assessment tool, which enables the examination of children's evaluations of their family relationships, self-perceptions, and emotional and interpersonal interactions within the family unit. On the other hand, family drawings were employed to determine the impact of the pandemic on the family and child, as well as the children's self-perceptions and relationships with their families. Additionally, the drawings were used to assess family dynamics during the pandemic. However, the family drawings were not analysed in isolation; rather, they were employed to assess how the children perceived their family dynamics. The drawings provide insights into the functionality and activity of the family unit from the child's perspective. They also reveal the child's perceptions and psychological defences within the family (29, 30).

Children's Apperception Test (CAT): The CAT is a projective test developed by Bellak and Sorel Bellak (31) that can be administered individually to children aged 3–10 years. The test comprises 10 cards displaying various animal images. The cards are presented to the child in a specific order, after which the child is required to create a narrative for each card. Given the inherent variability in the internal dynamics of each child, their narratives are inherently disparate. The test does

not provide any definitive answers; therefore, there are no right or wrong answers. For this reason, a numerical score or scale was employed in the evaluation of the responses provided. The tester recorded the children's stories about the pictures shown and analyzes them in terms of themes such as impulse, perception, conflict, fear, and anxiety. The aim of CAT is to gain insight into the conflicts that children experience by interpreting their unconscious processes in the stories they tell, to identify the figures that are important for the child, and to evaluate the child's attitude towards the mother-father and sibling images. CAT provides the opportunity to assess the child's place in the adult world, the child's aggression in the family, their level of autonomy, and their personality. In particular, the interpretation of unconscious processes is conducted with regard to the narratives of children. Thus, the objective is to comprehend the conflicts they experience, identify significant figures for the child, and assess the child's attitude towards their mother, father, and siblings.

Draw-and-tell interviews: Once the drawings had been completed, the children were interviewed. During the interviews, the children were queried about their drawings, including the identity of the depicted subjects, the content of the figures, and the activities of their family members. Subsequently, open-ended questions were posed to determine the perspectives of children and their families on the impact of the COVID-19 pandemic. In this context, children and their parents were separately asked questions pertaining to their perceptions of the Covid-19 pandemic, their experiences of spending time together at home, and the changes they had observed in their lives since the onset of the pandemic.

Procedure

All data were collected between March 2021 and January 2022. Before the commencement of the study, ethical approval was obtained from the Humanitarian Research Ethics Committee of Akdeniz University (No: 2021A060). Subsequently, hospital management for the COVID-19 group and school management for the non-Covid-19 group were provided with information about the study, and the requisite permissions were obtained for the study to be conducted. The study included parents who volunteered to participate and had children between the ages of 6 and 10, in addition to children who agreed to participate in the study with their parents and exhibited typical development. The fundamental eligibility criterion was a diagnosis of COVID-19 for the group with COVID-19 and an absence of a diagnosis of COVID-19 for the non-COVID-19 group. The children were not subjected to a diagnostic test for the novel coronavirus. For this reason, children with at least one parent who had a positive test result and were quarantined with their families were included in the COVID-19 group. The data in this group were collected via in-person interviews with hospital staff, nurses, secretaries, physicians, or relatives who had been diagnosed with COVID-19 and their children. The interviews were conducted on specific dates after the quarantine period had elapsed. The control group consisted of parents and their children who met the inclusion criteria and were selected by teachers from the volunteer group.

Before the start of data collection, parents of the children were provided with information regarding the study content, and their consent was duly obtained. Furthermore, the children were provided with simplified information about the study, and their consent was obtained. The study was conducted in a hospital setting for the group of children with confirmed COVID-19 cases and in a quiet room at a school for the control group. In both groups, the children were initially provided with 12 coloured crayons and blank pieces of paper, after which they were asked to draw a family. Following the initial drawing, the children were then asked to depict their family during the COVID-19 pandemic. After the completion of all drawings, interviews were conducted with the children to gain their opinions on the drawings. At the conclusion of the study, CAT was administered. To avoid requiring the children and their families to visit the hospital again, CAT was administered to the children on the same day as the other parts of the process in the group experiencing the effects of the Covid-19 pandemic. The interviews with the parents in the COVID-19 group were also conducted on the same day following the completion of the administration of COVID-19 vaccines to the children. In the control group, CAT was administered to children 1 week after the initial assessment. On the other hand, CAT was administered to children in the control group 1 week after they had completed the drawings. In this group, while the administrations were conducted in person with the children at school, the interviews with the parents were conducted online on the specified dates.

In both groups, the Individual Information Form was initially administered to the parents, followed by semi-structured interviews. The duration of each parent interview was approximately half an hour. The duration of each interview with children was approximately 45 min. To prevent fatigue, the researchers ensured that the sessions did not exceed a reasonable duration. The interviews were recorded with the consent of the participants. Once the data collection process was complete, a file was created for each child. The children's drawings and responses to both the CAT and the interviews were compiled and included in the files. The forms completed by the parents and the responses provided during the interviews were also collated and included in the child's file. A code containing the child's age and gender, along with their initials, was written on the cover of each file. The researchers conducted all the administrations to parents and children in both groups.

Data Analysis

In this study, children's drawings were analysed through a process of projective interpretation, employing a descriptive and content analysis approach. The interpretation of the drawings was conducted according to a total of 24 criteria, which were divided into two categories: emotional difficulties (fear, anxiety, depression, introversion, insecurity, aggression, and regression) and drawing composition (the location of the drawing on the paper, use of an eraser, colouring, compartmentalisation, rounding, framing, proportion of figures, omission of family members, omission of body organs,

and communication with the tester during the drawing). The criteria were established based on the findings of previous research on children's drawings.

In the context of this study, the drawings were interpreted in accordance with the interpretation guidelines developed by Malchiodi (32) and Yavuzer (27). According to these guidelines, children's drawings provide insight into their emotional states and psychological processes, with criteria including the part of the paper that the child primarily uses and begins drawing on. For instance, figures drawn in the upper panel of the paper may indicate a detachment from reality and features related to being in an imaginary world. The use of the lower panel of the paper is associated with introversion, inadequacy, and depression. The position of the drawings on the right side of the paper may indicate a tendency to reason, suppress emotions, and have expectations about the future. Conversely, drawings on the left may indicate independence, regression, and dependence on the mother. The excessive use of an eraser in children's drawings as well as the inclusion of excessive details and thick drawings that leave marks on the paper may indicate high anxiety. The colours that children frequently utilise when creating drawings are also regarded as reflections of their inner world and emotions. In other words, the more vitality there is in their inner world, the more clearly defined the figures or the more colourful the projection of emotions. Given that the colours chosen by children have psychological meanings, it is possible to offer different interpretations for each child. Consequently, reaching a definitive conclusion is challenging because the meanings attributed to colours may vary from one child to another. Studies have demonstrated that children with various illnesses use specific colours as an indicator of their health condition (33-35). In these studies, the most common colour used by children with various diseases was black. Furthermore, it has been observed that children with these conditions use red more frequently than other colours, as it is associated with blood.

The compartmentalisation of content may indicate a fear of separation from family and withdrawal. The presence of lines or frames around family members was an indication of their unwanted presence. If family members do not derive pleasure from their shared activities, each individual may be depicted as engaged in a separate activity, with a partitioning device present in the image. If children perceive themselves as isolated, they may draw a box or circle around themselves. The order in which family members are drawn is also significant for interpretation. According to Çelik (36), in the paintings of Turkish children, the mother is typically depicted on the left, while the father is on the right. This is thought to be due to the fact that the father is the external representative of the household. Children typically depict themselves in proximity to a person they hold in high regard, indicating a sense of closeness. If children wish to be distant from any individual, they typically depict themselves in a position that is physically distant from that person. In addition, children may also omit certain body parts from their drawings, indicating that they are either uninterested in or concerned about those areas.

For instance, the absence of hands and feet may indicate a lack of confidence, difficulty adapting to one’s surroundings, helplessness, aggression, insecurity, and anxiety.

In accordance with these guidelines, three professionals with expertise in child development and psychology conducted independent analyses of the drawings. In order to ensure inter-reliability among the professionals, the results of the analyses were coded on forms and compared by experts. The codings in which experts reached 100% agreement were included in the study. The codings that differed among the experts were included in the study only after all the parties agreed upon it. The results of the analyses are presented in the Results section, accompanied by sample drawings, to facilitate understanding of the interpretations.

In the initial analysis of the results, descriptive analyses of both family drawings were conducted separately. To assess the composition of the drawings, the frequency and percentage values of the specified themes were calculated. To evaluate the characteristics associated with emotional challenges, a score was assigned for each indicator manifesting fear, anxiety, depression, introversion, insecurity, aggression, or regression. Subsequently, the total score was calculated for each emotional domain. The scores for each feature were then aggregated to obtain the total score for emotional difficulties. Descriptive analyses were conducted using SPSS 25 statistical software. Before starting the analyses, a normality test was performed to determine whether the collected data satisfied the normality hypothesis. The results indicate that the data exhibit a distribution that is consistent with a normal distribution. Therefore, a t-test was employed to compare the emotional difficulty scores of the COVID-19 and non-Covid-19 groups. Furthermore, the compositions of drawings and family drawings in the COVID-19 and non-Covid-19 groups were compared using chi-square tests. Furthermore, a descriptive frequency analysis was conducted on the sociodemographic characteristics of the children. The content analysis was conducted after the completion of the descriptive analysis. The drawings of the children were evaluated in conjunction with the findings obtained from the CAT and interviews.

RESULTS

The mean age of children in the COVID-19 group was 8.43 ± 1.28, while in the non-Covid-19 group, it was 8 ± 1.51. The sociodemographic characteristics of the children included in the study are presented in Table 1.

Descriptive analyses

A chi-square comparison of the compositions of the family drawings in the COVID-19 and non-Covid-19 groups is presented in Table 2.

As shown in Table 2, related to the chi-square comparison of the compositions in the family drawings in the Covid-19 and non-Covid-19 groups, only colouring ($\chi^2=12.273, p=.001$) and omitted organs ($\chi^2=12.256, p=.028$) differed in the Covid-19 and non-Covid-19 groups. According to the results, the use of colour

Table 1: Sociodemographic characteristics of children in the COVID-19 and non-COVID-19 groups

The Socio-Demographic Characteristics	COVID-19 Group		Non-Covid-19 Group		Total	
	n	%	n	%	n	%
Age						
6	3	10.0	7	23.3	10	16.7
7	5	16.7	5	16.7	10	16.7
8	9	30.0	6	20.0	15	25.0
9	4	13.3	5	16.7	9	15.0
10	9	30.0	7	23.3	16	16.7
Gender						
Girl	13	43.3	17	56.7	30	50.0
Boy	17	56.7	13	43.3	30	50.0
Number of siblings						
No siblings	4	13.3	-	-	4	6.7
One sibling	23	76.7	22	73.3	45	75.0
Two siblings	3	10.0	7	23.3	10	16.7
Three or more siblings	-	-	1	3.3	1	1.7
Family members with chronic diseases other than COVID-19						
Yes	7	23.3	7	23.3	14	23.3
No	23	76.7	23	78.7	46	76.7
Income level						
Low	1	3.3	4	13.3	5	8.3
Average	24	80.0	22	73.3	46	76.7
High	30	16.7	30	13.3	9	15.0

was more frequent in the non-Covid-19 group (n=28) than in the COVID-19 group (n=16). When the omitted organs are examined, it is seen that hands (n=20) were more frequently omitted in the Covid-19 group, while feet (n=16) and arms (n=3) were frequently omitted in the non-Covid-19 group.

A chi-square comparison of the compositions of the drawings of the family during the COVID-19 pandemic in the COVID-19 and non-Covid-19 groups is presented in Table 3.

As can be seen in Table 3 regarding the comparison of the compositions of family drawings during the COVID-19 pandemic using the chi-square test, only colouring ($\chi^2=12.381, p=.001$) differed between the COVID-19 and non-Covid-19 groups in terms of composition. An examination of the results revealed that the use of colour was more frequent in the non-Covid-19 group (n=26) than in the COVID-19 group (n=13).

The comparison of emotional difficulties in family drawings between the COVID-19 and non-COVID-19 groups using the t-test is presented in Table 4.

When Table 4, which shows the results of the t-test comparison related to the emotional difficulties in the family drawings, is

Table 2: Chi-square comparisons of compositions in family drawings between the COVID-19 and non-Covid-19 groups

Drawing Compositions		Frequency		Chi-Square	df	p
		Covid-19	Non-Covid-19			
The location of the drawing on the paper	Left top	5	12	5.842	3	.120
	Right top	-	-			
	Centre	13	6			
	Left bottom	10	11			
	Right bottom	2	1			
Erasure	Yes	21	13	4.344	1	.067
	No	9	17			
Colouring	Yes	16	28	12.273	1	.001*
	No	14	2			
Compartmentalisation	Yes	2	5	1.456	1	.424
	No	28	25			
Rounding	Yes	1	2	.351	1	.500
	No	29	28			
Framing	Yes	2	4	.669	1	.671
	No	27	26			
Proportion of figures	Disproportionate	-	1	6.631	3	.085
	Normal	19	13			
	Large	8	7			
	Small	2	9			
Omission of family members	Yes	25	22	.884	1	.532
	No	5	8			
Omitted family members	Mother	-	1	2.967	4	.563
	Father	1	4			
	Sibling	4	5			
	Children themselves	-	1			
Omission of body organs	Yes	9	10	.077	1	1.000
	No	21	20			
Omitted organs	Hands	20	13	12.526	5	.028*
	Feet	12	16			
	Arms	1	3			
	Body	1	-			
	Legs	1	1			
	Face	-	-			
Communication with the tester during drawing	Yes	13	14	.067	1	1.000
	No	17	16			

Note. * $p < .05$

examined, introversion [$t_{(44,316)}=2.064$, $p < .05$] and regression [$t_{(56,470)}=4.305$, $p < .01$] differed in the family drawings of the Covid-19 and non-Covid-19 groups. The mean scores for introversion (2.67) and regression (1.50) of the non-Covid-19 group were higher than the mean scores of the COVID-19 group. In terms of the drawings of the family during the Covid-19 pandemic, introversion [$t_{(48,481)}=3.373$, $p < .05$], insecurity [$t_{(52,918)}=2.798$, $p < .05$] and regression [$t_{(58)}=2.473$, $p < .01$] differed in the family drawings of the Covid-19 and non-Covid-19 groups. In other words, the introversion (2.87), insecurity (2.67), and regression (1.50) scores of the COVID-19 group were higher than the mean scores of the non-Covid-19 group. In the drawings of the family during the pandemic, it was also seen that the total score for emotional difficulties in the Covid-19 group (17.83) was higher than that of the non-Covid-19 group [$t_{(46,488)}=2.473$, $p < .05$].

Content Analysis

In the content analysis, children's drawings, CAT, and interview findings were assessed according to age group.

Six-year-old children: All six-year-old children in the Covid-19 and non-Covid-19 groups demonstrated a similar understanding of social distancing, cleaning, mask wearing, lockdown, the inability to attend school, and the use of a computer at home, as evidenced by their drawings and interview responses. Upon examination of the drawings and responses provided in the interview, it became evident that the children exhibited a general awareness of the precautions that needed to be taken, including spending time with family members, and the continued necessity for distance education using technological devices such as smartphones and tablets. A common finding in CAT drawings was that children employed various manic defences against their inner tension and concerns regarding loss. Upon examination

Table 3: Chi-square comparisons of family compositions during the COVID-19 pandemic in the COVID-19 and non-Covid-19 groups

Drawing Compositions		Frequency		Chi-Square	df	p
		Covid-19	Non-Covid-19			
The location of the drawing on the paper	Left top	9	17	6.100	4	.192
	Right top	1	-			
	Centre	10	4			
	Left bottom	8	7			
	Right bottom	2	2			
Erasure	Yes	21	14	3.360	1	.058
	No	9	16			
Colouring	Yes	13	26	12.381	1	.001*
	No	17	4			
Compartmentalisation	Yes	18	16	.271	1	.795
	No	12	14			
Rounding	Yes	3	2	.218	1	1.000
	No	27	28			
Framing	Yes	14	7	.845	1	.438
	No	16	12			
Proportion of figures	Disproportionate	2	-	3.146	3	.370
	Normal	15	18			
	Large	10	8			
	Small	2	4			
Omission of family members	Yes	8	3	2.805	1	.179
	No	21	26			
Omitted family members	Mother	4	3	4.393	4	.355
	Father	6	8			
	Sibling	1	5			
	Children themselves	3	2			
Omission of body organs	Yes	8	3	2.805	1	.179
	No	21	26			
Omitted organs	Hands	18	15	7.168	6	.306
	Feet	15	16			
	Arms	1	-			
	Body	1	-			
	Legs	3	-			
	Face	1	-			
Communication with the tester during drawing	Yes	15	16	.067	1	1.000
	No	15	14			

Note. *p<.05

of the CAT and interview responses, it was determined that children exhibited difficulty in processing negative emotions and aggression, resulting in the use of secondary-level defence mechanisms such as suppression, rationalisation, and isolation. The results revealed a prevalence of depressive findings, with most children expressing concerns about loss and harm. When the drawings, CAT, and interview responses were examined together, it was determined that the children in both groups had difficulties in psychologically processing negative emotions such as aggression and resorted to defence mechanisms such as suppression, rationalisation and isolation. Findings related to insecurity, depression, and anxiety were seen to be prominent, especially in the drawings of the COVID-19 group (See Figure 1).

Figure 1 depicts a family during the pandemic, with a 6-year-old girl belonging to the COVID-19 group. It can be observed that

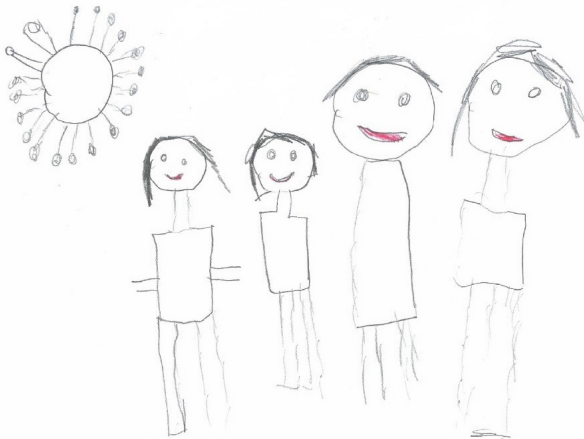
the use of colour is notably constrained. Organs such as the hands, arms, and feet are absent, the bodies are angular, and the lines are dashed. The virus figure is particularly noticeable.

Seven-year-old children: In the drawings of the COVID-19 group, findings related to Covid-19, such as the virus, disinfectant, and drawings of sick family members, were observed with regularity. The absence of hands and feet was a common feature in most drawings, in both the COVID-19 and non-Covid-19 groups. It was observed that some paintings exhibited thick lines. It is also notable that a significant proportion of the drawings in the COVID-19 group depicted stick figures (see Figure 2). In the initial drawings of the Covid-19 group, while the family was depicted together engaged in an activity, it was observed that the number of family members decreased in the drawings during the pandemic. In these drawings, the

Table 4: Comparison of Emotional Difficulties in Family Drawings between the COVID-19 and Non-Covid-19 Group

Drawing	Emotions	COVID-19		Non-Covid-19		t	df	p
		M	SD	M	SD			
Family	Fear	2.17	0.87	2.37	0.89	-.878	58	.384
	Anxiety	2.23	1.33	2.37	0.93	-.450	58	.654
	Depression	2.97	1.50	2.83	1.29	.370	58	.713
	Introversion	2.43	1.79	2.67	0.96	2.064	44.316	.045*
	Insecurity	2.13	1.46	1.70	0.84	1.413	46.271	.164
	Aggression	1.07	0.94	1.40	0.72	-1.534	58	.130
	Regression	1.27	0.52	1.50	0.61	4.305	56.470	<.01**
	Total	14.27	6.44	12.97	3.85	.949	47.338	.347
Family during the COVID-19 pandemic	Fear	3.53	1.14	3.40	1.04	.475	58	.637
	Anxiety	2.77	1.57	2.47	1.07	.864	58	.391
	Depression	3.27	1.31	3.00	1.31	.370	58	.713
	Introversion	2.87	1.66	1.67	1.03	3.373	48.481	.001*
	Insecurity	2.67	1.37	1.37	0.10	2.798	52.918	.007*
	Aggression	1.23	0.86	1.63	0.81	-1.858	58	.068
	Regression	1.50	0.63	0.83	0.59	4.224	58	<.01**
	Total	17.83	5.81	14.80	3.37	2.473	46.488	.017*

Note. * $p < .05$, ** $p < .01$

**Figure 1:** Drawing of a 6-year-old girl with COVID-19 diagnosis

boundaries between spaces were highlighted, and family members were depicted in different rooms. In particular, it was observed that the father was absent from some compositions. Upon examination of the CAT results, it became evident that the impact of the pandemic was evident, as evidenced by the incorporation of masks into the narratives. In the COVID-19 group, the capacity to be alone was diminished, and loneliness emerged as a pervasive emotion. The pandemic occurred when children should have been engaged in activities that facilitate learning, formation of new relationships, participation in activities, and contact with their social environment. The development of cognitive and social capacities marked this period of life. While this age group was expected to disassociate

from edipal objects, observations in CAT stories indicated that this disassociation was not sufficient. A lack of clarity emerged regarding the delineation of roles, the protection of boundaries became challenging, sexual curiosity intensified, and the suppression mechanism employed proved ineffective. This age group, which is at the beginning of the formation of the upper self, experienced difficulty in controlling their impulses.

In both the CAT and drawings, duality was observed rather than individuation. A synthesis of the findings from the drawing, CAT, and interview revealed an increase in the need for protection and feelings of loneliness, while the capacity to be alone decreased. In all cases, the findings indicated a regression in mental development, a lack of sufficient functionality of the suppression mechanism that should be activated at this age, and the use of both the suppression mechanism and defence of denial. Although these observations were consistent across both groups, they were more prominent in the COVID-19 group.

Figure 2 depicts a family during the pandemic, specifically a 7-year-old boy in the COVID-19 group. The drawing exhibit compartmentalisation, excessive detailing, the omission of family members, and limited use of colour.

Eight-year-old children: Upon examination of the content of the drawings, it was observed that the symbolic expressions exhibited a notable decline, while more depressive themes became increasingly prevalent in the group depicting the impact of the Covid-19 pandemic. In both groups, while families were depicted together in nature in the initial drawings, it was observed that the number of people decreased or family members were distant from each other in the family drawings during the pandemic



Figure 2: Drawing of a 7-year-old boy with COVID-19 diagnosis

period (see Figure 3). This finding was observed in both groups. In the drawings depicting the pandemic, it was observed that children in the COVID-19 group either completely removed their parents from the drawings or drew them in a distant place. In the CAT story context, the use of the suppression defence, which is specific to the latency period, is a prominent feature. Responses in which the suppression defence was not effective also emerged in CAT cards. It can be postulated that the vividness of the impulsive world, which is still close to the edipal period, is the reason for this. The emergence of “fear” themes that were incongruous with the latent content on the cards, followed by responses in which the perception was distorted, and animal name answers pointing to the problematic of bonding were also noteworthy. In the case of the mother cards, responses indicating a lack of ability to approach the mother and oral satisfaction also indicated that inclusion was difficult. On the other hand, the undoing defence was frequently observed in interviews and narratives about the aftermath of the pandemic. When the CAT responses of children and their initial family drawings were examined together, it became evident that themes of aggression and depression were present. A commonality between the CAT and pandemic drawings was the perception of the outside world as dangerous and the inability of children to manage such perceptions. The pandemic drawings of the COVID-19 group exhibited some common characteristics, including the depiction of houses, viruses, drawings with thick contours, and the omission or erasure of hands. In the CAT responses of this age group, the names of animals were frequently used to indicate the theme of fear and attachment problems. When all drawings, CAT, and interview results were assessed together, themes related to the difficulties experienced while staying together in the house and the need for separation as a defence were observed in both groups. In particular, the COVID-19 group exhibited difficulties in coping with the realities of the external world, which can be attributed to the superego.

Figure 3 shows an 8-year-old girl’s drawing of her family during the pandemic. In the drawing, several features are evident, including the use of the lower portion of the page for drawing, the compartmentalisation of the image, incorporation of brown and black colours, and application of thick contours.

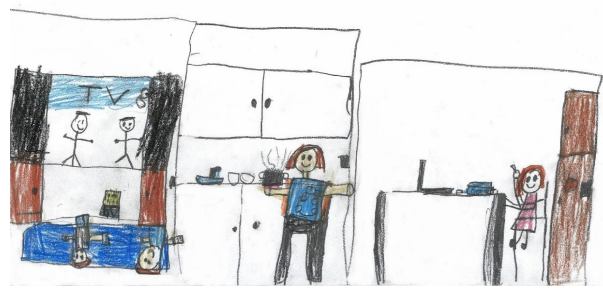


Figure 3: Drawing of an 8-year-old girl without COVID-19 diagnosis

Nine-year-old children: The drawings of both the COVID-19 and non-Covid-19 groups exhibited common features, such as virus, masks, and patients. In many drawings in both groups, the hands and feet were absent, and the drawings were in the form of stick figures (see Figure 4). However, this finding was more evident in the COVID-19 group. Findings related to the search for strong parental figures who offer support and protection, difficulty in distinguishing between the self and the other, and vulnerability to the dangers of the outside world were observed in both groups.

In the drawings of the Covid-19 group, the high degree of emotional distress manifested in the form of a strong desire for care, inclusion, and protection, as well as an increased concern about being harmed, was particularly noteworthy. The majority of drawings in this group included observations on the intensity of conflict within the family and the difficulty of maintaining familial cohesion. Narratives that attempted to understand the circumstances and difficulties involved in articulating their experiences were notable. In contrast to the COVID-19 group, in which almost all eyes were drawn as dots, the non-Covid-19 group included detailed depictions of eyes. Upon evaluation of the CAT results, it was observed that the boundaries of privacy were exceeded. This resulted in a concomitant increase in sexual curiosity and guilt, as well as a high desire for care and protection, accompanied by an increase in anxiety about being harmed. Additionally, denial and manic defences were employed. In the cards, it was observed that children exhibited a desire to distance themselves from their parents and a desire for separation according to their age. However, as evidenced by the responses, this separation was not fully achieved. When the family drawings, CAT, and interview findings were assessed together, it was observed that children in both groups resorted to defences such as denial and suppression.

Figure 4 depicts the family during the pandemic, including a 9-year-old boy in the COVID-19 group. The lack of quality and richness in the drawing, the omission of the hands and feet, the mask, and the absence of colour use are notable features.

Ten-year-old children: In both groups, while the family drawings typically commenced with the depiction of the same-sex parent, who served as the object of identification for children during this developmental period, it was notable that pandemic drawings commenced with the inclusion of

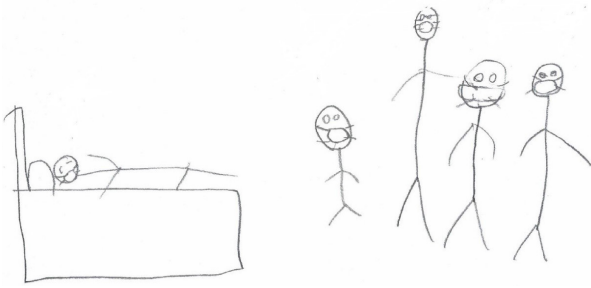


Figure 4: Drawing of a 9-year-old boy with COVID-19 diagnosis

spatial elements such as beds, carpets, televisions, computers, and armchairs. In addition, elements of the pandemic, such as masks, disinfectants, and viruses, were also included in the drawings. While domestic themes were prevalent in the narratives of the Covid-19 group, in the non-Covid-19 group, the majority of drawings depicted external elements such as the sky, trees, and activities like going on a picnic or going for a walk (Figure 5). In the COVID-19 pandemic drawings, objects that created barriers between family members were common, and family members were mostly shown in different rooms. The initial family drawings depicted family members in a linear configuration. However, in the pandemic drawings, some family members are depicted in restricted areas, while others are depicted in distant and separate areas.

In both groups, family members were depicted and represented according to generational differences. In the protocols, the perception of a dangerous outside world and concerns about being harmed were identified as common findings. In the CAT responses of both groups, the aggression and fear of harm were observed at expected levels in children in this age group. Responses indicated that children in the latency period exhibited more aggressive fantasies and concerns about harm than anticipated, and suppression was ineffective in most protocols. It was observed that the consequences of the pandemic, including illness and death, served as an external reality that increased early aggressive fantasies and concerns about harm. Furthermore, the expected quality of suppression from the latency period was not realised. When the drawings, CAT, and interview responses were collectively assessed, it was observed that the children employed various defence mechanisms, including suppression, regression, and rationalisation, in response to internal concerns and conflicts. In particular, regression was identified as a common phenomenon in the pandemic drawings of children in both groups, and in the CAT and interview results. However, this finding was more evident in the COVID-19 group. It is noteworthy that the regression findings increased in the drawings of the pandemic and the CAT results for the non-Covid-19 group.

Figure 5 depicts the family of a 10-year-old girl in the non-Covid-19 group during the pandemic. The image depicts a family engaged in an outdoor activity. Additionally, it is noteworthy that the figures are positioned in the lower left corner of the page and are depicted in miniature.



Figure 5: Drawing of a 10-year-old girl without COVID-19 diagnosis

DISCUSSION

The study investigated children's perceptions of COVID-19 through an analysis of their drawings. To achieve this, a descriptive and content analysis approach was employed. In the descriptive analysis, the use of colour in the COVID-19 group was less diverse and varied than that in the control group. These findings are consistent with those of previous studies on children with various diseases. In a study by Dolidze et al. (37), in which the drawings of 293 sick children were examined, the authors found that children used significantly fewer colours than controls. In other words, most children commonly used a single colour for their entire drawing. In some studies, the use of red was found to be associated with pain (38, 39) and black with depression (36). In this context, it is hypothesised that the use of fewer colours, as well as the use of colours such as black and red, may indicate physical symptoms such as pain, sadness, and depression in individuals diagnosed with Covid-19. While the omission of hands was an intriguing finding in the family drawings of the COVID-19 group, it was observed that the omission of feet was more prevalent in the non-Covid-19 group. The absence of hands in most drawings may be associated with difficulties in intervening, lack of control, and a sense of powerlessness. The absence of feet in the drawings may indicate a perceived lack of control over one's circumstances, which necessitates external support (40). On the other hand, a reduction in the use of colour and the exclusion of organs in pandemic drawings were observed in both groups. It is postulated that this phenomenon can be attributed to the impact of the pandemic on children in both groups.

When the emotional difficulties depicted in the drawings of the two groups were compared, introversion and regression were observed as common findings. However, the emotional difficulties observed in the pandemic drawings of the COVID-19 group were found to be more pronounced than those observed in the non-Covid-19 group. It is believed that restrictions imposed during the pandemic may have contributed to increased parental dependence and introversion. Furthermore, concerns about the pandemic, in addition to dependence and introversion, may have prompted children to frequently employ

regression as a coping mechanism. When the drawings were evaluated in general, a notable observation was that regression, manifested by a reduction in detail and quality, was a prevalent phenomenon in the majority of children in both groups, particularly in the pandemic drawings. Regression, which refers to a child's inability to display a skill they have acquired and return to more juvenile behaviours instead of the behaviours expected from their age, is defined as a psychological defence and considered to be one of the most evident consequences of sickness and hospitalisation on children (41). Some findings in the literature support this theory and the findings of this study. For example, in a study conducted by Erdem Atak et al. (35), which aimed to examine the psychological states of 31 hospitalised children and their perceptions of illness through drawings, findings related to emotional difficulties such as anxiety, depression, and regression were found to be common features. In another study conducted by Tiryaki et al., (42), which aimed to examine the Covid-19 perceptions of 17 children aged between 7 and 11 years, it was found that the majority of the children included in the study had high levels of anxiety. In this context, regression is thought to have occurred as a common finding in children during the pandemic period, regardless of whether they had COVID-19 or not.

In the content analysis of the study, when the family drawings, CAT, and interview responses were assessed together according to age group, it was found that the threats to life and health caused by the pandemic had an impact on the mental functioning of all children. Furthermore, it was determined that the children could not reflect their true mental functioning levels in their responses due to the external reality they were experiencing. During the lockdowns, children were required to remain at home with their parents, which resulted in social isolation and limited social contact. The loss of everyday peer-to-peer contact and mobility has created difficulties for children. In this new reality, isolation has emerged as a significant risk factor for the deterioration of psychological processes (43). The fact that most images, particularly in the 7-9 age group, depicted stick figures may indicate that the mental processes of the children were not as advanced as expected of their age. The observation that children predominantly depicted a closed mouth in a straight line may mean that they were reticent in expressing themselves or encountered difficulties in expressing their emotions. The pandemic had a profound impact on children at a developmental stage when they should be engaged in activities such as learning, forming new friendships, participating in activities, and maintaining contact with their social environment. While this age group is expected to exhibit psychological differentiation from their parents, it is believed that this separation was not sufficient. Roles within the family were mixed, sexual curiosity increased, and the mechanism, including suppression, was not sufficiently functional during lockdowns with parents during the pandemic. It is expected that this age group will require social interaction with their peers. In this context, it can be posited that the absence of parents in drawings may indicate a need for emotional distance in the children's mental world. The presence of houses, viruses and omitted hands in pandemic drawings may indicate a lack

of perceived safety despite external dangers. Drawing with thick contours may reveal aggressive impulses in an attempt to establish a boundary with the outside world and to protect oneself. Furthermore, the removal of images of the mother and father from the drawings and some detailed house drawings may indicate that children have a greater need for inclusion and protection during the pandemic. The age of 8-9 is a critical period in the development of the superego, which is defined as a structure that creates the psychological principles, values, and rules of the personality and emerges with feelings of guilt in daily life. In this age period, the superego becomes more compatible with the expectations of the external world (44). However, it is believed that children had difficulty controlling their impulses and the superego, which is the reflection of the "holding" caregivers, appeared to be not fully internalised, resulting in difficulties in coping with the expectations of the external world.

In terms of psychosexual development, children at this age are expected to engage in learning processes, new activities, and peer relationships by starting school after the impulsivity of the edipal period (45). However, the reality of the pandemic was experienced instead. From this perspective, maintaining physical proximity with parents who were already challenging to disengage mentally may have impeded the children's capacity for psychological growth. These findings indicate the use of suppression defences specific to the latency period. However, the CAT cards demonstrate that these defences are not sufficiently functional. It can be proposed that the impulsivity resulting from continued proximity to the edipal period may have contributed to this dysfunctionality, as evidenced by the CAT responses, which revealed persistence of the children's edipal conflicts. In addition, in this age group, a tendency to rely on concrete and sensory objects in drawings was observed, and CAT responses were observed with some frequency. The behaviours of talking to the practitioner and asking questions during the drawing process may indicate a need for approval, dependence, and support.

In the drawings of the 10-year-old, the aspects of the pandemic, including masks, disinfectants, and viruses, were evident. These details may indicate that the source of internal conflict is the risk of disease caused by the pandemic. In addition, the excessive presence of house figures in the second drawing may indicate a shift in psychological investment and conflict from the external world, such as school and friends, to home and domestic relations. In addition to the elements of the external environment, such as the sky and trees, the narratives depicted in the drawings, including those of going on a picnic and going for a walk, reflect the children's desire to reconnect with the outside world that they were deprived of. In the non-Covid-19 group, the initial drawings depicted scenes from the natural environment, whereas the subsequent images typically portrayed scenes from the domestic setting. The emotional difficulties were more evident in the domestic drawings. Similar findings were obtained in a study that examined lockdown drawings of 151 children (46). In the study, while family members were depicted together and in a positive light

in the children's outdoor drawings, sadness and loneliness were prominent in the lockdown drawings. This finding, which was also evident in this study, may be indicative of the emotional ambivalence of children in the non-Covid-19 group towards the lockdown.

The CAT responses of both groups demonstrated that the mother images exhibited inclusive functions. With the exception of one protocol, a nurturing and positive love object projection was observed. However, it was observed that this "holding" figure was not sufficiently internalised, and the children could not utilise effective coping strategies. This may be attributed to the caregivers' inability to provide a secure environment and to cope with their own anxiety. The fact that the parents were infected with COVID-19 may have prevented the successful fulfilment of this "holding" function. In this context, it was observed that the suppression of negative emotions and inner conflicts was unsuccessful in most protocols. Duan et al. (47) observed that children affected by disasters are unable to develop appropriate emotions and coping techniques. Consequently, children were more negatively affected by the COVID-19 pandemic and experienced greater stress than adults. In parallel with this suggestion, this study observed that the consequences of the pandemic on morbidity and mortality increased early aggressive fantasies and concerns about harm. Consequently, expected suppression did not occur in this age group. When the CAT and interview responses were assessed together, it was observed that the desire to be cared for and protected was high, and parental dependency and sensitivity to separation from the parents increased. In the context of the pandemic, children were prohibited from physically attending schools, which represented the only opportunity for them to develop as autonomous individuals. Conversely, there was an observed increase in instances of parental intervention and control over personal space. As a result, it can be argued that the intense co-existence and intertwining with parents increased the anxiety of both parental intervention and dependency. It was also observed that children in both the COVID-19 and non-Covid-19 groups in this age group frequently employed the regression defence mechanism in CAT. The observed increase in dependency and expressed concerns and sensitivity about separation may be indications of regression as a defence in children in both groups.

This study is significant in that it presents the psychological effects of the COVID-19 pandemic on children from their own perspectives. In light of the fact that the generation that has grown up with the global COVID-19 pandemic will continue to experience its effects for an extended period, it is anticipated that this study will retain its relevance in the future and have significant implications. However, besides the strengths of the study, some limitations of the study should also be mentioned. First, the data for this study were collected from two different cities. The cities of Antalya and Bursa are both metropolitan cities in different regions. It was assumed that the pandemic conditions did not differ between the two cities and that they were similar in terms of sociodemographic characteristics. However, selecting children diagnosed with COVID-19 from a hospital in Bursa and children not diagnosed with COVID-19 from a kindergarten

in Antalya may have introduced bias or error into the study. Therefore, it is essential to exercise caution when interpreting the results of comparisons between children with and without a confirmed diagnosis of COVID-19. In addition, it should be noted that these findings may not be solely attributable to the effects of the pandemic. The drawings made by the children and their responses in the CAT and interviews may have been influenced by a number of factors, including the severity of their experiences with the pandemic, their socio-economic status during the pandemic, their parents' reactions to the pandemic, and the child's general personality characteristics. It is recommended that the aforementioned confounding factors be considered when interpreting the responses. It is also recommended that further studies on the long-term effects of the pandemic be conducted in the future, with a particular focus on controlling the effects of these confounding factors.

CONCLUSION

In conclusion, this study offers valuable insights into the psychological impact of the COVID-19 pandemic on children, based on their experiences. The findings may have clinical implications for the provision of appropriate support to children to help them cope with the psychological effects of the pandemic. In psycho-social support interventions for children, it is crucial to address the anxiety that may arise from being intensely present and intertwined with their parents, as well as their sensitivity to separation and dependency. It is equally important to facilitate self-development by encouraging separation from parents and peer relationships. The fact that the mortality rates of children during the pandemic were lower than that of adults and that the clinical picture was milder in children has led to a reduced number of reported paediatric patients compared with adults; therefore, the difficulties experienced by children during the outbreak were the subjects of less concern compared with adults. However, it is believed that the psychological effects of the pandemic will be more severe and longer lasting in children than in adults, and the developmental effects of the pandemic in children may become more evident in the long run. For this reason, it is of great importance to monitor the development of children affected by the COVID-19 pandemic. It is imperative for mental health professionals to consider the long-term consequences of the pandemic when assessing psychological difficulties in children. Similarly, devising functional support mechanisms for children and their families, with a particular focus on online psychological support. Furthermore, it is vital to maintain these mechanisms in an active state and to update them in accordance with the identified needs of the affected population during the pandemic.

Ethics Committee Approval: This study was approved by the ethics committee of Humanitarian Research Ethics Committee of Akdeniz University (No: 2021A060).

Informed Consent: Written consent was obtained from the participants.

Peer Review: Externally peer-reviewed.

Author Contributions: Conception/Design of Study- U.B., A.B.A.; Data Acquisition- M.E.U., H.Ş., A.E., M.B.; Data Analysis/Interpretation- İ.E.A., Y.Y.; Drafting Manuscript- U.B., Y.Y., H.Ş., M.E.U.; Critical Revision of Manuscript- A.B.A., İ.E.A., A.E., M.B.; Final Approval and Accountability- U.B., Y.Y., H.Ş., M.E.U., A.B.A., İ.E.A., A.E., M.B.

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REFERENCES

- Hui DS, Azhar E, Madani TA, Ntoumi F, Kock N, Dar O, Ippolito G, et al. The continuing 2019 novel coronavirus epidemic threat to global health—The latest 2019 novel coronavirus outbreak in Wuhan, China. *Int J Infect Dis.* 2020; 91: 264-266.
- Centres for Disease Control and Prevention (CDC). Coronavirus disease 2019 (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19.html>, 2023.
- Andrews HS, Herman JD, Gandhi RT. Treatments for COVID-19. *Annu Rev Med.* 2024; 75(1): 145-157.
- Qiu J, Shen B, Zhao M., Wang Z, Xie B, Yu Y. A nationwide survey of psychological distress among Chinese during the COVID-19 epidemic: Implications and policy recommendations. *Gen Psychiatr.* 2020; 33: 1-3.
- Hughes C. Some implications of COVID-19 and remote learning and the future of schooling. *Current and Critical Issues in Curriculum, Learning and Assessment* 2020; 36: 3-17.
- Saurabh K, Ranjan S. Compliance and psychological impact of quarantine in children and adolescents due to Covid-19 pandemic. *Indian J Pediatr.* 2020; 29: 1-5.
- Turkish Ministry of Health. COVID-19. The new coronavirus illness. <https://cobi19bilgisaglik.gov.tr/tr/>, 2020.
- Abukan B., Yildirim F, Öztürk H. Being a Child in the Covid-19 pandemic: Social work requirements and recommendations according to developmental periods. *Electronic Turkish Studies* 2020; 15(6): 1-14.
- Phelps, C., Sperr, L. Children and the Covid-19 pandemic. *Psychol Trauma.* 2020; 12(S1): 73-75.
- Wolf K, Schmitz J. Scoping review: Longitudinal effects of COVID-19 on child and adolescent mental health. *Eur Child Adolesc Psychiatry.* 2024; 33(5): 1257-1312.
- Spinelli M, Lionetti F, Pastore M, Fasolo M. Parents' stress and Children's psychological problems in families facing the COVID-19 outbreak in Italy. *Front Psychol.* 2020; 11: 1713.
- Rothe J, Buse J, Uhlmann A, Bluschek A., Roessner V. Changes in emotions and worries during the Covid-19 pandemic: an online survey with children and adults with and without mental health conditions. *Child Adolesc Psychiatry Ment Health.* 2021; 15(1): 1-9.
- Tang S, Xiang M, Cheung T, Xiang YT. Mental health and its correlates with children and adolescents during COVID-19 school closure: The importance of parent-child discussion. *J Affect Disord.* 2021; 279: 353-360.
- Yang X, Chan KK. COVID-19 and stress related to schooling. In *International and Life Course Aspects of COVID-19* (pp. 475-484). Academic Press, 2024.
- Jiao WY, Wang LN, Liu J, Fang SF, Jiao FY, Pettoello-Mantovani M, Somekh E. Behavioural and emotional disorders in children during the Covid-19 epidemic. *J Pediatr* 2020; 221: 264-266.
- Panda PK, Gupta J, Chowdhury SR, Kumar R, Meena AK, Madaan P, et al. Psychological and behavioural impact of lockdown and quarantine measures for COVID-19 on children, adolescents, and caregivers: a systematic review and meta-analysis. *J Trop Pediatr.* 2021; 67(1): 1-13.
- Raymond C, Provencher J, Bilodeau-Houle A, Leclerc J, Marin MF. A longitudinal investigation of psychological distress in children during Covid-19: the role of socio-emotional vulnerability. *Eur J Psychotraumatol.* 2022; 13(1): 2021048.
- Crescentini C, Feruglio S, Matiz A, Paschetto A, Vidal E, Cogo P, et al. Stuck outside and inside: an exploratory study of the effects of the COVID-19 outbreak on Italian parents and Children's internalising symptoms. *Front. Psychol.* 2020; 11: 1-14.
- Başaran M, Aksoy AB. Views of parents on their experiences during the Corona-Virus (Covid-19) pandemic. *The Journal of International Social Research* 2020; 13(71): 668-678.
- Chartier S, Delhalle M. Parental peritraumatic distress and feelings of parental competence in relation to Covid-19 lockdown measures: What is the impact on children's peritraumatic distress?. *Eur J Trauma Dissociation* 2020; 5(2): 1-9.
- Lee SJ, Ward KP, Changg OD, Downing KM. Parenting activities and the transition to home-based education during the COVID-19 pandemic. *Child Youth Serv Rev.* 2021; 122: 1055-1085.
- Pfeerbaum B, North CS. Mental health and the COVID-19 pandemic. *N Engl J Med.* 2020; 383: 510-512.
- Winnicott DW. The maturation process and the facilitating environment. International University Press, 1962.
- Bion WR. Learning from experience. London: Karnac Books, 1962
- Silverman MA. Capturing and comprehending Bion's Ideas about the analyst's container function: The need for containing states of mind. *Psychoanal Q.* 2011; 80(2): 475-491.
- Artut K. Art education in preschool. Ankara: Anı Publishing, 2007.
- Yavuzer H. Children's drawings. Remzi Publishing, 2016.
- Yıldırım A, Şimşek H. Qualitative research methods in social sciences. Seçkin Publishing, 2021.
- Burns-Nader S. Examining children's healthcare experiences through drawings. *Early Child Dev Care* 2017; 187(11): 1809-1818.
- Kim JK, & Suh JH. Children's kinetic family drawings and their internalising problem behaviours. *Arts Psychother.* 2013; 40: 206-215.
- Bellak L, Sorel Bellak S. Children's Apperception Test (C.A.T.). U.S.A.: C. P. S. Incorporated, 1980.
- Malchiodi CA. Understanding children's drawings. New York: Guilford Publications; 1998.
- Köçkar Ç, Gürol A. Anxiety, aggression, and self-esteem analysis through pictures in children with cancer. *Journal of F.N. Hem.* 2013; 21(1): 33-39.
- Rollins JA. Tell me about it: drawing as a communication tool for children with cancer. *J Pediatr Oncol Nurs.* 2005; 22(4): 203-221.
- Erdem Atak İ, Beyazıt U, Taşçıoğlu G, Bütün Ayhan, A. A study on the psychological status of hospitalised children and their perceptions of hospital and sickness through drawings. *Turkish Journal of Paediatric Disease* 2019; 13(4): 283-291.
- Çelik FY. Examination of the relationship between the drawings of 9-12 years old children and variables of depression, anxiety, and self-respect. [Master's thesis, University of Işık], 2018.

37. Dolidze K, Smith E, Tchanturia K. A clinical tool for evaluating emotional well-being: Self-drawings of hospitalised children. *J Pediatr Nurs*. 2013; 28: 470–478.
38. Savedra M, Gibbons P, Tesler M, Ward J, Wegner C. How do children describe pain? A tentative assessment. *Pain* 1982; 14(2): 95-104.
39. Altan H, Çevik H, Doğru S, Coşgun A, Süren M, Okan İ. The pain colour of children with toothache in the Turkish population. *BMC Oral Health* 2019; 19(1): 1-8.
40. Kortessluoma R, Punamäki R, Nikkonen M. Hospitalised children drawing their pain: contents and cognitive and emotional characteristics of pain drawings. *J Child Health Care* 2008; 12(4): 284-300.
41. Beyazıt U, Bütün Ayhan A. Psychological characteristics of sick children and approach sick children. In *The development and education of sick children* (pp. 60-78). Eskişehir: Publications of Anadolu University, 2015.
42. Tiryaki Ö, Zengin H, Çınar N. Reflection of Children's Perceptions of the Covi-19 Pandemic on their Drawings. *Ordu University Journal of Nursing Studies* 2021; 4(3): 296-305.
43. Stavridou A, Stergiopoulou AA, Panagouli E, Mesiris G, Thirios A, Mougiakos, T, et al. Psychosocial consequences of Covid-19 in children, adolescents and young adults: a systematic review. *Psychiatry Clin Neurosci*. 2020; 74(11): 615-616.
44. Barnett B. *You ought to: A psychoanalytic study of the superego and conscience*. U.K.: Karnac Books, 2007.
45. Rennison N. *Freud and Psychoanalysis*. U.S.A.: Trafalgar Square Publishing, 2015.
46. Idoiaga Mondragon N, Eiguren Munitis A, Berasategi Sancho N, Picaza Gorrotxategi M, Dosil Santamaria M. How are children coping with the COVID-19 health crisis? Analysing their representations of lockdowns through drawings. *Childhood* 2022; 1-16.
47. Duan L, Shao X, Wang Y, Huang Y, Miao J, Yang X, et al. An investigation of mental health status of children and adolescents in china during the outbreak of COVID-19. *J Affect Disord*. 2020; 275: 112-118.