

## Views of Teachers and Principals for Intellectual and Developmental Disabled Students in Quarantine

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### Abstract

The Covid-19 pandemic affected all areas of life, including the education system. Extraordinary conditions induced by the pandemic necessitated a sudden transition to distance education, which had significant effects on students, parents, and teachers. While all students were negatively affected by this development, the difficulties experienced by students with developmental disabilities were different from their peers with typical development. It has been reported that the individuals with developmental disabilities experienced the highest difficulty in the management of the negative effects of the Covid-19 pandemic, and their needs were primarily ignored in distance education. The current study was conducted with a phenomenological and qualitative approach to investigate the related data in depth. The study participants included 10 special education teachers and 10 special education school principals. The study findings revealed that it was extremely difficult to conduct special education online; schools were not only a learning environment for the students with developmental disabilities, but also a sphere of socialization.

**Keywords:** Developmental Disabilities, Pandemic, Covid-19, Teacher, Principal

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## INTRODUCTION

Covid-19, which was declared a pandemic by the World Health Organization (WHO) in March 2020, led to extraordinary conditions where millions of people struggled and still struggle with the consequences. Due to the pandemic, governments around the world introduced several measures such as curfews, quarantines, distance education, and work at home. Various measures have been adopted to control the pandemic since 2020, and the measures have been reregulated with the availability of the vaccines and the reduction of the relative mortality risk after the emergence of Covid-19 variants (WHO, 2022). However, the end of the Covid-19 pandemic remains uncertain and there is a risk of re-quarantine measures at any moment (Şahin & Shelley, 2020; WHO, 2022). While this risk affects every area of daily life, education has been one of the most affected areas (Armitage & Nellums, 2020; Sani-Bozkurt et al., 2021).

The Covid-19 pandemic led to an urgent and sudden transition to distance education, which had significant effects on students, parents, and teachers (Bozkurt & Sharma, 2020; Bozkurt et al., 2020; Goldschmit, 2020). During the pandemic, especially during the quarantines, parents assumed the role of educator, and teachers and principals assumed the roles of teacher trainers and counselors (Bozkurt et al., 2020; Devercelli, 2020). These abrupt changes in family life and distance education have been challenging for all children and parents (Fiorillo & Gorwood, 2020). While this was true for all children with typical development and their parents, the challenges that children with special needs and their parents faced were much more challenging and stressful (Armitage & Nellums, 2020; Asbury et al., 2021; Courtenay & Perera, 2020). Special education with distance learning introduced serious difficulties and problems (Armitage & Nellums, 2020; Gulati et al., 2020), and the education of students with development disabilities (DDs), especially those with autism spectrum disorder or intellectual disabilities who have cognitive, social, and behavioral difficulties experienced significant problems and required extra assistance (Hassiotis et al., 2020; Sani-Bozkurt et al., 2021).

The most devastating effect of the Covid-19 pandemic on special education was the immediate transition to distance education and quarantine at home. A sudden change could lead to psychological and physical problems such as trauma, depression, health problems, social problems, and an increase in problem behavior in students with DD who experience difficulties in coping with stress or comprehending the pandemic, and who could resist these social and educational changes (den Houting, 2020; Kuper et al., 2020; Narzisi, 2020). Furthermore, problems in planning the transition to distance education also led to several assistance requirements in special education such as user interface design or internet access support. (Kaya & Şahin, 2021; Kuper et al., 2020; Rose et al., 2020; Thelwall & Levitt, 2020; Toseeb et al., 2020).

Previous studies reported that individuals with DDs were the most vulnerable group in the management of the negative effects of the Covid-19 pandemic, and the issues that students with DDs experienced in distance education were neglected (Buchnat & Wojciechowska, 2020; Carey et al., 2021; Hurwitz et al., 2021; Ruby, 2021; Stenhoff et al., 2020). Special education teachers stated that one-on-one and intensive special education practices were suspended (Yakut, 2021), the students and their parents needed assistance in accessing distance education, and this assistance was urgent and inevitable for home education feedback (Heyworth et al., 2021; Schuck et al., 2021). Similarly, principals argued that they required technical and educational assistance in inclusive education policies and the transfer of special education to e-learning (Hughes et al., 2022). Content area teachers, on the other hand, claimed that they experienced difficulties in the e-learning process with students with special needs in inclusive classes, and that students with special needs faced participation problems in e-learning (Myers et al., 2021). One of the major problems in distance education was reported as inaccessibility of the websites for individuals with special needs in several universities and schools (Meleo-Erwin et al., 2021).

Parents emphasized that the main problems their children have experienced during the pandemic included higher behavioral problem levels at home and trauma, high anxiety and stress,

problems associated with access to education and healthcare, and their need for technical, educational, and social assistance (Dickinson et al., 2021; Heyworth et al., 2021; Jeste et al., 2021; Stenhoff et al., 2021; Tsibidaki, 2021).

The most significant requirement for individuals with DDs is adequate preparedness for distance education due to the persistence of the pandemic and a new wave of infections. Thus, it could be suggested that alternative solutions should be developed for decision makers, school principals, teachers, and parents to determine students' assistance needs during the Covid-19 pandemic in distance education, future challenges, and government policies. Thus, the present study aimed to investigate the impact of the Covid-19 pandemic on students with DDs, the assistance provided by special education teachers and school principals during the quarantine, support provided for these stakeholders by institutions, and possible solutions to pandemic-related problems.

## METHOD

### Research Design

The current study was conducted with a phenomenological approach for in-depth data analysis based on a qualitative paradigm. In phenomenological studies, researchers initially identify a phenomenon. The present study phenomena were children with DDs and the state of special education during the pandemic quarantine. Here, the term "developmental disabilities" refers to children with "intellectual disability" and/or "autism spectrum disorder". Qualitative research begins with questions that aim at learning. The researcher collects data that include words, numbers, pictures, and sounds to answer these questions. The data are grouped and become categorized information, and findings emerge when these data are analyzed (Rossman & Rallis, 2012).

### Participants

Qualitative studies, unlike quantitative research, can focus on samples assigned with a purpose and relatively small groups to acquire an in-depth understanding of a phenomenon (Patton, 2002). A purposive sampling method was employed in this study for data collection and criterion sampling. The study sample included 10 special education teachers and 10 special education school principals in various geographical regions of Turkey. The sampling criteria included (a) employment as a special education teacher or principal in a special education school, and (b) the presence of students with DDs in their classes/schools.

**Table 1 Participating Teacher Demographics**

| Code | Age | Seniority (years) | Education     | Department        | Class size | Interview date | Interview duration (minutes) |
|------|-----|-------------------|---------------|-------------------|------------|----------------|------------------------------|
| T01  | 28  | 9                 | Graduate      | Special education | 10         | 04.19.2020     | 47                           |
| T02  | 39  | 16                | Undergraduate | Special education | 8          | 04.19.2020     | 30                           |
| T03  | 33  | 12                | Undergraduate | Special education | 4          | 04.19.2020     | 27                           |
| T04  | 37  | 16                | Graduate      | Special education | 11         | 04.21.2020     | 21                           |
| T05  | 29  | 6                 | Graduate      | Special education | 6          | 04.21.2020     | 28                           |
| T06  | 39  | 16                | Undergraduate | Special education | 4          | 04.21.2020     | 31                           |
| T07  | 29  | 6                 | Undergraduate | Special education | 4          | 04.22.2020     | 16                           |
| T08  | 39  | 16                | Undergraduate | Special education | 4          | 04.22.2020     | 23                           |
| T09  | 36  | 13                | Undergraduate | Special education | 4          | 04.23.2020     | 25                           |
| T10  | 37  | 13                | Undergraduate | Special education | 3          | 04.27.2020     | 23                           |

As seen in Table 1, participating teachers were coded as T01, T02, ...T10. Interviews with special education teachers lasted between 16 and 47 min. Although all teachers were graduates of university special education departments, three teachers had graduate degrees, and seven had undergraduate degrees. Class sizes varied between three and 11 students. Also, participants' ages ranged from 28 to 39, and the teaching experience of the teachers varied between 6 and 16 years.

**Table 2 Participating Principal Demographics**

| Code | Age | Seniority (years) | Education     | Department        | Number of students in the school | Number of teachers in the school | Interview date | Interview duration (minutes) |
|------|-----|-------------------|---------------|-------------------|----------------------------------|----------------------------------|----------------|------------------------------|
| P01  | 36  | 16                | Undergraduate | Special education | 1                                | 1                                | 04.26.2020     | 23                           |
| P02  | 43  | 20                | Undergraduate | Special education | 98                               | 21                               | 04.26.2020     | 27                           |
| P03  | 47  | 23                | Undergraduate | Visual arts       | 89                               | 9                                | 04.27.2020     | 36                           |
| P04  | 35  | 10                | Undergraduate | Family economy    | 4                                | 1                                | 04.27.2020     | 22                           |
| P05  | 42  | 20                | Undergraduate | Special education | 30                               | 8                                | 04.30.2020     | 37                           |
| P06  | 44  | 19                | Undergraduate | Special education | 89                               | 12                               | 04.30.2020     | 47                           |
| P07  | 42  | 20                | Undergraduate | Special education | 22                               | 8                                | 05.01.2020     | 25                           |
| P08  | 50  | 25                | Undergraduate | School teaching   | 89                               | 9                                | 05.02.2020     | 27                           |
| P09  | 35  | 12                | Undergraduate | School teaching   | 2                                | 1                                | 05.02.2020     | 28                           |
| P10  | 43  | 20                | Undergraduate | French education  | 220                              | 23                               | 05.03.2020     | 35                           |

As seen in Table 2, the principal participants were coded as P01, P02, ...P10. Interviews with special education school principals lasted between 23 and 47 min. Five principals were graduates of university special education departments, and five had graduated from various university teacher/administrator preparation programs. There were 1-220 special education students in the schools where the principals were employed. Also, the principals' ages ranged from 35 to 50, and their experience ranged from 10 to 25 years.

### Authors

The first author started as a university lecturer after working as a special education teacher for 12 years. His professional experience facilitated his ease in conducting the interviews and interpreting participants' statements. This author's previous employment in the same job as the teacher participants contributed to the clarity of the study. The second author is a university faculty member with a PhD in special education, and she has conducted several studies in the field, which included interviewing parents and teachers during the pandemic.

### Data Collection and Procedures

The study data were collected with a semi-structured interview technique to obtain in-depth data based on the study objective and design. The authors developed separate interview questions for the two participant groups. During the development of these questions, the views of five specialists with PhD degrees in special education were obtained and the questions were edited accordingly. Both administrator and teacher interview forms included nine questions and subquestions. These included general special education system questions and more specific questions investigating assistance to students with DDs during the quarantine. We conducted pilot interviews with a special education teacher and a principal to test the draft questions.

After the pilot scheme, the first author messaged each prospective participant and made appointments for 1:1 interviews. Due to the pandemic, the interviews were not conducted on WhatsApp, not in person. All interviews were recorded.

### Data Analysis

Data analysis in qualitative research includes the preparation and organization of the data, data coding, the identification of themes based on the codes, and presentation of the findings in narrative or tabular form (Creswell, 2007). Descriptive and content analysis techniques are generally used in qualitative data analysis. Content analysis is used to draw generalizable and valid inferences from manuscripts or other meaningful material. Content analysis could be used to explain a phenomenon (Krippendorff, 2004).

The data collected with the semi-structured interview method were analyzed in depth with the content analysis method. The recorded interviews were transcribed. The transcripts of each group were read three times, codes were developed from meaningful data groups, and categories were determined based on the codes. Then, the categories were grouped under emergent themes. The content analysis revealed five themes and 41 categories, and these are presented in the findings section.

### Credibility and Coding Reliability

Strategies that are frequently used in ensuring the validity and reliability of qualitative research include credibility and confirmability (Creswell & Miller, 2000; Erlandson et al., 1993; Guba & Lincoln, 1989). The credibility of the current study is based on expert opinions during the development of the data collection instrument, data listing, and analysis. Confirmability was determined with coding reliability.

Nine randomly selected interviews were recoded by an independent expert and these codes were compared with the coding key to determine intercoder reliability. Intercoder reliability was calculated with the formula developed by Miles and Huberman (1994;  $\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}}$ ), and the reliability coefficient was calculated as 86%. The six codes on which the authors and the independent expert disagreed were discussed and agreement was achieved.

### Ethical Concerns

Ethics committee approval (date: 10.01.2022, protocol number: 2100078732) was obtained from the Research and Publication Ethics Committee at the university where the first author is employed. Furthermore, the participants were informed that participation in the study was completely voluntary, and that they could withdraw from the study at any time.

## FINDINGS

The analysis of the responses to the semi-structured interview questions revealed five themes and 41 categories. The themes and category frequencies determined with content analysis are presented in Figure 1.

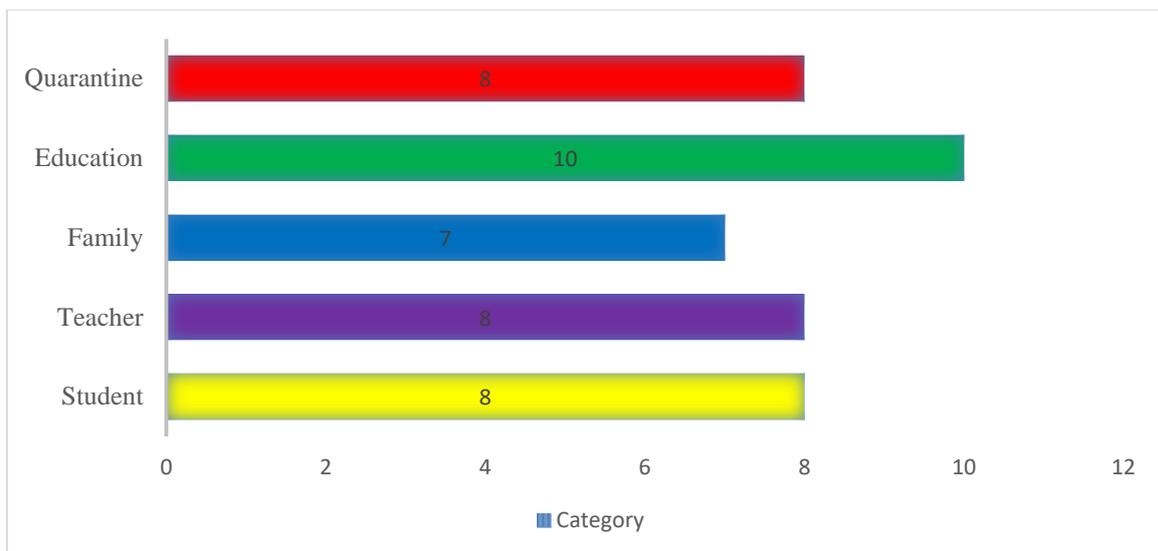


Figure 1 Themes and Categories

As seen in Figure 1, five themes, namely quarantine, education, family, teacher, and student, were determined. The frequency of each theme is also presented in the figure.

**Table 3 Quarantine Theme Category Frequencies**

| Category                      | T        | P        |
|-------------------------------|----------|----------|
|                               | <i>f</i> | <i>f</i> |
| Post-quarantine               | 8        | 7        |
| Impact on special education   | 6        | 5        |
| Pre-quarantine                | 7        | 1        |
| Domestic life                 | 3        | 3        |
| Domestic activities           | 5        |          |
| Explanation of the quarantine | 3        |          |
| Preparation                   |          | 2        |
| Flow of daily life            | 1        |          |

Note. T: Teacher, P: Principal, f: Frequency.

The frequencies for the quarantine theme that reflects the aim of the study are presented in Table 3. On the measures that should be taken during the quarantine, participant P02 stated that every child should be assessed individually: *There is a need to get parental views with expectation questionnaires in these days. Most importantly, certain studies on how to overcome trauma are required. Behavioral problems of my student increased a lot; we needed immediate behavioral analysis. It has left various traces on all of them. I think, maybe they will need academic assistance. Each child should be evaluated individually. They may experience developmental setbacks, obesity problems.*

In the category on the effect of the quarantine on special education, participant T07 stated, *It had negative effects, that is for sure. Because the educational environment of children who need special education should be one-on-one, face-to-face in a classroom environment. Now that the children are locked in their homes, their education is completely up to their parents. The process was negatively affected since parents, like us, did not have a command of the education system and could not establish authority.* Participant P09 said, *I think they were negatively affected similar to normal students. In fact, they were even more adversely affected.* On the experiences of the teachers before the quarantine, participant T01 stated that *“suddenly the schools were closed, we were distanced from the children, and the pharmacies ran out of masks last week, I made masks in the class with rubber bands. I gave them eau de cologne before letting them in. We literally made all children study with masks for 2-3 days.* On living at home during the quarantine, participant T07 remarked, *Almost all children in our school are illiterate, their behavior problems are significant, and the parents naturally deal with behavioral problems at home now.”* Participant P03 stated the following on the same topic: *“Parents are very troubled at the moment. Normally, the parents used to send messages to the governor even during the snowed-out days, because they could not manage the kids. They are in bigger trouble right now.*

Participating teachers also supported their students by assigning purposeful activities. Participant T10 stated, *Last time, we had already assigned something on April 23; we did that before as well; they shot and submitted a video, read the National Anthem, decorated the balcony, etc.* P07, a participating principal, emphasized professional readiness for such events: *We have the Directorate of National Education, social services, social workers, special education teachers, psychologists, physiotherapists, and there should be a readiness group that could support parents in these troubled days by forming a workgroup.* Participant T03 stated that they developed a daily program for their students even though no one asked them) to: *I developed a special program, a training schedule. From getting up in the morning until going to bed in the evening, there are two half-hour breaks, one on the balcony and one outside the house, but of course, controlled, with the parents, where the child can be in nature, not in crowded settings...*

**Table 4 Education Theme Category Frequencies**

| Category                                  | T        | P        |
|---|----------|----------|
|   | <i>f</i> | <i>f</i> |
| Distance education is not suitable        | 8        | 8        |
| Infrastructure problems                   | 6        | 6        |
| Distance education application            | 6        | 4        |
| Distance education development suggestion | 4        | 3        |
| Effectiveness suggestion                  | 7        | 4        |
| Continue education                        |          | 3        |
| Approach to special education             |          | 2        |
| Compulsory segregation                    |          | 2        |
| Home schooling                            |          | 1        |
| Student feedback                          | 1        |          |

*Note.* T: Teacher, P: Principal, f: Frequency.

One of the most important findings of the study was the theme of education. As seen in Table 4, the category with the highest frequency was the “distance education is not suitable” category. P02 stated that they could not conduct distance education: *No matter how much you diversify, you work with a child with autism, you need to establish eye contact; it ends before it even starts.* T06 stated that parents could not conduct educational activities with their children: *Frankly, it is not right to say that a group (parents) who do not know what to teach should make children do this or that.* P09 stated that the infrastructure required for distance education could not be provided for all: *Some parents do not have smartphones, WhatsApp, or internet; that is the biggest problem. In this process, we discovered that there are students who did not have even a television set. The infrastructure was poor, and when everyone was online, the system failed.* Participant T10 supported that perspective: *The child does not have a tablet at home, no WIFI, only mobile internet on his father's phone; we send the things we send through him. The family has no special education books, no resources.*

In Turkey, a distance education application called Education Information Network (EBA) was employed during the quarantine. Participant T05 stated the following regarding this application: *Teachers do not know exactly how to use EBA, because since the system exists, it was accepted that all teachers know it. New teachers are appointed every year, and their knowledge is at least questionable. The content is inadequate. Not all special education content is practice-oriented; how to teach reading and writing? How to teach mathematical skills? How to instruct speech skills? There is no such material or application.* On the improvement of this application, participant T02 recommended: *It is necessary to extend the content of EBA TV, not by the Ministry, but perhaps in collaboration with teachers in the field and local universities. There are limited mobile applications with special educational content; maybe this could be improved a little.*

On the effectiveness of distance education, participant P08 emphasized that the material should be distributed: *Educational material adequate for the students' disabilities could be distributed to their parents.* Participant P02 stated that consultation services should be prioritized: *We may have unemployed parents, whose income is insufficient, or who are depressed and need psychological counseling with the child during quarantine.* Furthermore, certain participants argued that students with special needs should be segregated in certain quarantine settings. P10 stated, *In structured environments, in a village, in a town, you quarantine students with special education teachers in these settings. There, they can sustain normal lives. Know what I mean? This is the most efficient solution.*

**Table 5 Family Theme Category Frequencies**

| Category                             | T        | P        |
|--------------------------------------|----------|----------|
|                                      | <i>f</i> | <i>f</i> |
| Institutional assistance requirement | 6        | 5        |
| Parental competency                  | 6        | 4        |
| Psychological support                | 6        | 1        |
| Other assistance                     |          | 6        |
| Parental concerns                    | 2        | 2        |
| Educational support                  | 8        | 1        |
| Parental attention                   | 2        |          |

Note. T: Teacher, P: Principal, f: Frequency.

Category frequencies in another important theme, the family, are presented in Table 5. On this theme, T09 stated that there was a curfew for individuals younger than 20, but children with special needs could go out with their companions: *It was flexible [for these individuals], as per the Ministry of Internal Affairs directives, to go out when the necessary precautions are taken, and you have your child's health report.* Participant P02 stated that the relevant institutions did not provide special assistance to children with special needs, since they were focused on the public at large: *Obviously, our social policies, the Ministry of Health, the police, and NGOs are our stakeholders, but the university, since this process was very difficult, frankly, did not have time. Thus, I cannot say that we received benefits or support.*

Another category in this theme was parental competence which T05 emphasized: *Distance education distress could be relieved by the parents if they had a certain level of education, but if the literacy of the parents is low or if they are primary school graduates, the parents experience problems.* P05 stated that parents should receive psychological support: *Especially mothers take medicine and receive psychological support. Thus, I think our priority should be to improve the psychological state of the parents.* Furthermore, T03 emphasized the importance of parental training: *We should immediately develop videos to train the parents, exemplar videos should be developed. Families should be instructed to spend more quality time with their children. This should be included in the distance education platform right now.*

**Table 6 Teacher Theme Category Frequencies**

| Category                | T        | P        |
|-------------------------|----------|----------|
|                         | <i>f</i> | <i>f</i> |
| Teacher competency      | 4        | 8        |
| Presentation method     | 6        | 5        |
| Communication channel   | 7        | 4        |
| Communication frequency | 5        | 3        |
| Teacher follow-up       | 2        | 2        |
| Teacher requirements    | 2        | 1        |
| Home visits             | 3        |          |
| Teacher egoism          |          | 1        |

Note. T: Teacher, P: Principal, f: Frequency.

As seen in Table 6, one of the main themes was the teacher theme in the study. On this theme, T06 emphasized teachers' professional qualifications and their fields in college: *If they are special educators, yes, they consult the parents, they even offer online courses for their children, but if they are outside the field (different content area teacher), you know there are several contracted teachers who are not in the field, these people could not instruct these courses.* P01 stated that teachers' technology skills affected the process: *Certain colleagues experienced adaptation problems in smart or technological systems. Some did not know how to explain, some did not know what to do when they were involved in this for the first time; the age of the teacher and technological communication abilities affected the process.* When the teachers were asked how they conducted online presentations, participant T01 responded, *Every day, I post images and magazine cutouts on the subject; I write the*

*instruction, shoot a video, and post it.* When the participants were asked how they communicated with the students, T10 said, *WhatsApp is the means of communication we employed the most.* Similar to that statement, almost all participants claimed that WhatsApp was the common practice nationwide. Participant T06 explained, *We ask the children what they have been doing by calling or texting them every 2-3 days or as much as we can.*

One of the most important categories in the teacher theme was teacher follow-up. P07 noted that the distance education provided by special education teachers was not supervised: *I wrote on the WhatsApp group that I received such a letter from the Ministry of National Education, and I need feedback. One or two friends responded, and others did not. We have colleagues who just want to go through the process one way or another.* The most significant category in this theme was the self-interest of the teachers. Participant P05 stated that the teachers were emotional beings and neglected their duties: *I ask my colleagues to do something. They tell me they have problems at home. My psychology is not well, one's husband is a police officer, another's husband is a healthcare worker. They say I cannot even move my hand; there are such colleagues.*

**Table 7 Student Theme Category Frequencies**

| Category                     | T<br><i>f</i> | P<br><i>f</i> |
|------------------------------|---------------|---------------|
| Problem behavior             | 6             | 5             |
| Future anxiety               | 6             | 5             |
| Health anxiety               | 3             | 2             |
| Technology use               | 2             | 2             |
| Incompetence level           | 2             | 1             |
| Neglect/abuse                |               | 2             |
| Protected students (orphans) | 1             |               |
| Emotional support            | 1             |               |

*Note.* T: Teacher, P: Principal, f: Frequency.

The teachers and principals in the theme of students with special needs, which was the main focus of the study (see Table 7), stated that problem behavior increased tremendously across the children with special needs who stayed at home: *Behavioral problems are at extreme levels, some have temper tantrums, the children want to go out (T02), most have seizures at home. Parents experience attacks due to the constant presence of the child at home (P10).* The participants expressed their concerns about students' future regression in all developmental areas: *Children exhibit problem behavior at home, are more obese; their language-speech development, academic lives could be retarded; we currently experience all of these (P02).* Also, P10 expressed certain healthcare concerns: *Children with intellectual disabilities, especially those with Down syndrome, experience immune system and respiratory tract problems. They hardly survive even a regular flu infection. These children spend the whole year with a runny nose. God forbid, if this pandemic spreads among them, the destruction will be significant.*

Participant T03 emphasized the requirement of technology training: *It is not possible for me to conduct distance education with children. Because I did not teach the distance education platform to the children before, the children do not know how to use it, parents do not know, I cannot instruct online.* Participant P08 mentioned that the disabilities of certain students prevented their participation in distance education: *Some students have severe disabilities that prevent distance education activities.* One of the most important findings in the student theme was the concerns of the participants about the neglect and abuse that these children could experience in the process: *I do not think that isolation of these children at home is healthy. We may encounter different problems, I am sorry to say, but I do not want to mention some things, but I mean, very undesirable things could have happened in this process. The child used to go to school every day; before, teachers could control the children (P10).*

## DISCUSSION

In the current study that investigated school principals' and teachers' reflections on the effects of the urgent and sudden transition to distance education during the Covid-19 pandemic on students with DDs, teachers, principals, and parents, distance education during this period, the assistance available for the stakeholders, their support requirements, and related problems were determined based on four themes: quarantine, education, parents, teachers, and students. On the quarantine theme, the participants stated that special education students were adversely affected during the quarantine period, their quality of home life decreased, problem behavior increased, and the flow of daily life deteriorated. Similar findings were reported in previous studies on teacher and parental views (Carey et al., 2021; Dickinson et al., 2021; Hurwitz et al., 2021; Jeste et al., 2021; Stenhoff et al., 2021). The findings on the negative effects of the quarantine on special education were consistent with the literature. On the other hand, these participants stated that they provided support for parents to conduct domestic activities during the quarantine, and they developed special daily schedules for the students. Similar applications were developed in previous studies (Heyworth et al., 2021; Hughes et al., 2022; Meleo-Erwin et al., 2021).

The findings on the theme of education revealed that distance education could be not conducted due to infrastructure problems and the capacity of the distance education platform. Similar studies emphasized infrastructural problems, the impossibility of distance education due to the inaccessibility of school websites (Meleo-Erwin et al., 2021), problems associated with distance education platforms (Buchnat & Wojciechowska, 2020; Carey et al., 2021), and low digital literacy across students and parents (Myers et al., 2021). On the other hand, previous research emphasized that special distance education applications should be developed for children with special needs and that parents, teachers, and students should be supported in the process (Carey et al., 2021; Hurwitz et al., 2021; Meleo-Erwin et al., 2021; Stenhoff et al., 2020; Tsibidaki, 2021). Faculty members suggested the development of e-learning systems for distance education specific to students' disability types (Mohammed Ali, 2021). Similarly, in the current study, the development of distance education applications for students with special needs and the distribution of special materials to disability groups were suggested to develop and deliver effective distance education.

The significant findings on the parent theme included the inadequacy of institutional assistance, the weakness of parental competencies in playing a role in distance education, and parents' psychological needs. Other studies in the literature confirmed that parents experienced high levels of stress and anxiety and required psychological and social support (Armitage & Nellums, 2020; Asbury et al. 2021; den Houting, 2020; Dickinson et al., 2021; Kuper et al., 2020; Narzisi, 2020). Similarly, it was determined that parents experienced problems in distance education due to their low digital skill levels (Myers et al., 2021; O'Connor et al., 2021; Schuck et al., 2021).

On the teacher theme, the methods teachers adopted in distance education and their communications with their students were among the prominent findings. Previous studies similarly emphasized the methods adopted by the teachers in distance education and associated support requirements (Bozkurt et al., 2020; Goldschmit, 2020; Sani-Bozkurt et al., 2021; Thelwall & Levitt, 2020; Toseeb et al., 2020). On the student theme, as mentioned in the literature (den Houting, 2020; Hassiotis et al., 2020; Kuper et al., 2020; Narzisi, 2020), the concerns for the future were prominent due to the high increase in problem behavior and regression in development.

## CONCLUSION AND RECOMMENDATIONS

Schools are not only a learning environment for students with DDs, but also areas that allow socialization. The increase in domestic problem behavior among students led to a significant increase in parental support requirements. Teachers with special education graduate degrees could establish qualified and functional communication with their students and parents. Unfortunately, students without internet access and home computers were negatively affected in this process.

During the quarantine, teacher follow-up and coordination was not adequate, especially in special education. This adversely affected the participation of certain students in distance education. Furthermore, almost all participants stated that special education could be conducted with distance education. However, it was concluded that the only way to provide special education online was to support the parents. After the quarantine, they suggested that students be evaluated individually before they are admitted to schools and that support should be provided based on students' unique and novel requirements due to the quarantine. Furthermore, education services for students with special needs who continued formal education at home during the quarantine were terminated. The most pervasive finding of this study was the fact that the negative impact of the quarantine was higher on special education services than on general education.

Based on the present study's findings, the development of a platform that would allow communication between and among parents, teachers, and students and which would employ all multimedia facilities is recommended. A national emergency action plan is required for response to emergencies. Turkey's internet infrastructure should be improved, and all parents should have access to technological devices. Distance education assistance should be provided to support parents and teachers. Thus, we recommend the inclusion of an e-learning course in special education teacher training programs.

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No potential conflict of interest was declared by the authors.

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The authors contributed equally to the study.

Author 1: Conceptualization and Methodology, Visualization, Investigation, Supervision, Formal Analysis, Data Curaiton, Validation, Writing- Reviewing and Editing.

Author 2: Conceptualization and Methodology, Investigation, Writing- Original draft preparation, Writing- Reviewing and Editing, Formal Analysis, Validation.

**Ethical Statement:**

Ethics committee approval (date: 10.01.2022, protocol number: 2100078732) was obtained from the Research and Publication Ethics Committee at the university where the first author is employed. Furthermore, the participants were informed that participation in the study was completely voluntary, and they could withdraw from the study at any time.

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