



Exploring Children's School Readiness in the COVID-19 Era: Teacher and Parent Views

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Abstract

One of the concerns within the pandemic crisis is the issue of school readiness. With the closure of schools, children were deprived of the opportunities necessary for their development and learning, which are important for school readiness. The current mixed-method study explored the views of teachers and parents about the effects of COVID-19 on school readiness through semi-structured interviews and the Metropolitan School Readiness Test for children. Quantitative findings suggested that most children needed to be supported in terms of school readiness. According to the qualitative results gained from parents and teachers, children's various developmental areas, mainly socio-emotional and physical, were affected adversely. In addition, both agents have some mutual expectations and have a series of expectations from politicians. As a result, this study can be considered crucially in comprehending the long-term impact of COVID-19 on children's school readiness and informing stakeholders by highlighting the views of parents and teachers.

Keywords: COVID-19, preschool, school readiness, parent views, teacher views

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1. Introduction

Schools are essential for fostering diverse learning experiences, social interactions, and healthy routines that support children's growth and development. Interactions with peers and teachers significantly influence the school adjustment and children's overall development (Miller & Kehl, 2019). However, the COVID-19 pandemic has caused disruptions to education across the globe by reducing essential social interactions for learning and development (Cherry, 2024; The United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020a). Ensuring effective learning continuity during a pandemic presents an extraordinary challenge (Chang & Yano, 2020). Therefore,

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recognizing the diverse needs of children, teachers, and families in such times is crucial to fostering children's development and creating a resilient learning environment.

A child's transition to primary school is a critical milestone in her/his development (Mercan-Uzun & Alat, 2017). Before enrolling in primary school, young children are expected to be adequately prepared. Each child's readiness differs (Taylor et al., 2004; Toran & Alabay, 2020), yet a smooth transition to school can contribute to future social and academic success (Carida, 2011; Chan, 2010). Considerable literature points to the significance between children's school readiness and future academic success (Dockett & Perry, 1999; Goldschmidt & Pedro, 2020; Majzub & Rashid, 2012; United Nations International Children's Emergency Fund [UNICEF], 2012). However, The COVID-19 pandemic has introduced new challenges to the issue of school readiness.

1.1. School readiness

School readiness has many definitions (Buldu & Er, 2016). According to UNICEF (2012), school readiness is a multi-dimensional phenomenon that characterizes young children's capacities for successful transition to school to acquire competencies. Similarly, school readiness means gaining the required prerequisites for learning (Carida, 2011). In some research, school readiness extends from children's school adaptation to their academic achievement and socialization (Kagan, 2013; Mercan-Uzun & Alat, 2017). Stone (2007) states school readiness includes abilities which enable children's academic success. Although chronological age and specific cognitive abilities are commonly used to measure readiness, physical, behavioral, and socio-emotional developmental domains should be utilized (Başaran, 1998; Lincove & Painter, 2006; Miller & Kehl, 2019; Rafoth, et al., 2004) through a whole-child approach (Altun, 2018).

According to Berk (2006), cognitive and physical abilities are essential in school readiness along with positive peer relations. Studies conducted with children show that children must be emotionally ready (Oktay & Unutkan, 2003). Self-regulation is considered a school readiness indicator (Grolnick & Sliviaczek, 1994; Normandeau & Guay, 1998; Wentzel et al., 1990). Furthermore, early literacy skills, including reading and writing awareness impact school readiness (Yangin, 2007). Nakayama and Ueno (2008) state school readiness consists of children's knowledge, skills, and environment where they live. This also includes the school's capacity to support children starting school.

1.2. Multifaced nature of school readiness

Besides multi-dimensional features of school readiness, its identification is essential before primary school. Although in some countries, some instruments are implemented to detect school readiness (Niemeyer & Scott-Little, 2002), children generally enroll in primary school according to a country-based specific age. For example, in Turkiye, the primary school enrollment age is 72 months old, but children with written parental permission can enroll in school earlier (MoNE, 2019). Informal-naturalistic (authentic assessments) and formal (standard, norm-referenced) (Maxwell & Clifford, 2004) assessments are generally used to assess school readiness. Regardless of methodology,

identification of school readiness should include all partners, be conducted in a natural setting, and focus on the whole child phenomena (Bredekamp & Copple, 1997). Gathering information from multiple sources is also key in identifying school readiness (Maxwell & Clifford, 2004).

According to the Ecological Systems Theory, Bronfenbrenner (1989) defined the systems, from microsystem to chronosystem, surrounding children (Berk, 2006), and he claimed that interaction of those systems affects children (Darling, 2007). For instance, the chronosystem implies the impact of major historical events, like the pandemic, on children's learning and development. Moreover, parents and teachers are the members of the microsystem, and the interaction between the chronosystem and microsystem affects the child. In this context, this theory emphasizes how crucial it is to comprehend the wider environmental factors, such as the pandemic, and how these affect children's school readiness.

Numerous studies involving parents demonstrate how important their involvement is in preparing their children for school and how they influence the transition from home to school (Mantovani et al., 2021; Nystad et al., 2021). Teachers are another crucial factor of identifying children's school readiness. While considering preschool teachers spend considerable time with children, teacher's views regarding skills in different developmental areas are paramount, and their views can be used in assessing school readiness (Rimm-Kaufman et al., 2000; Smith & Glass, 2019). Teachers' views concerning school readiness have the potential to shape transition practices (Pajares, 1992; Smith & Glass, 2019). For example, teachers use various transition practices in building partnerships between school and home. When parents' and teachers' views concerning school readiness are considered, they may differ in definition and/or expectation. To illustrate, preschool teachers may consider socio-emotional skills more significant for school readiness than cognitive skills (Lin, Lawrence, & Gorrell, 2003). Establishing consistency between parents' and teachers' views is crucial for a successful primary school transition. Therefore, it is critical to understand the similarities or discrepancies between their views on school readiness.

1.3. *COVID-19 pandemic and school readiness*

In 2020, schools were closed worldwide due to COVID-19 (UNESCO, 2020b). Pandemic-related school closures and challenges with online education resulted in delays in children's academic and socio-emotional development (Benner & Mistry, 2020; Organization for Economic Co-operation and Development [OECD], 2020; Watts & Pattnaik, 2023). Therefore, children's school readiness has become an issue.

Due to COVID-19, various aspects of school readiness were threatened. Therefore, as close observers of children's lives, understanding teachers' and parents' views regarding the pandemic has become essential. Murphy et al. (2023) indicated most participant teachers report children's school readiness as worse or much worse than prior to the pandemic. Additionally, Dong et al. (2020) investigated parents' perceptions and beliefs about distance learning during COVID-19 and found they did not have positive beliefs

regarding distance learning and preferred face-to-face learning in early childhood education. Similarly, in Aronu et al. (2020), parents' perceptions and preferences about their children returning to school during the pandemic, showed most parents preferred children return to school. Moreover, in İnan's study (2021), most teachers stated distance education is inappropriate for youngsters and face-to-face education is more effective.

Various studies have been conducted on teachers' and parents' views regarding challenges faced in early childhood education during COVID-19 (Atiles et al., 2021; Watts & Pattnaik, 2023). The challenges exemplified were preparation for online education, lack of pre-service and in-service training in distance learning and working with caregivers (Atiles et al., 2021); socio-emotional well-being of children (Egan et al., 2021; Watts & Pattnaik, 2023) such as a lack of friendship, peer learning and play time as well as difficulties in life skills such as reliance on parents and fine motor skills. These issues may negatively affect children's development. Barnett et al. (2020) stated parents participated in home-based learning activities during the pandemic including book sharing or storytelling, singing songs, and doing arts and crafts. They also attempted to utilize opportunities for remote support for learning. Therefore, it was evidenced the pandemic did impact children's lives, development, and learning processes.

1.4. Current Study

Although numerous studies have examined the effect of COVID-19 on children's development and life (Barnett et al., 2021; Benner & Mistry, 2020), parent and teacher perspectives on the impact of COVID-19 (Aronu et al., 2020; Dong et al., 2020; İnan, 2021) and on the shift to distance learning for early childhood education (Barnett et al., 2020; İnan, 2021), limited research has focused on the perceived effects of the pandemic on school readiness (Murphy et al., 2023). Thus, the current study aimed to explore children's school readiness levels during the pandemic and obtain views of preschool teachers and parents regarding its effect on school readiness. This study addresses a significant gap in the existing literature by offering a valuable perspective on the school readiness of children in the context of a global health crisis.

2. Method

2.1. Research design

This study employed a convergent parallel mixed-methods design, which required giving equal weight to the qualitative and quantitative methodologies, evaluating two distinct data sets separately, yet interpreting outcomes jointly (Creswell & Plano Clark, 2018). The present study comprised qualitative interviews with teachers and parents as well as quantitative measurement from the Metropolitan School Readiness Test, developed by Hildreth et al. (1995) and adapted to Turkish by Oktay (1980). The interviews allowed researchers to explore teachers and parents' views about COVID-19's effects on school readiness of 60-78-months-olds and their self-reported practices for preventing the pandemic's adverse effects on school readiness. Additionally, the Metropolitan School Readiness Test was conducted with children aged 60-78-months-old to validate the

interview findings as a means of determining children's school readiness. Thus, the study design allowed for an analysis with equal emphasis on both data types to fully understand COVID-19's effects on children's school readiness.

2.2. Participants

This study involved 23 children, 23 parents, and six teachers who participated voluntarily. The distribution of parents' demographics is demonstrated in Table 1. Out of the 23 parents, 17 were mothers (73.9%) and 6 were fathers (26.1%). Twelve parents were aged between 36 and 45 years (52.2%), seven were between 25 and 35 years (30.4%), one was between 56 and 65 years (4.34%), and three did not provide their age (13.06%). In terms of education, 11 parents were university graduates (47.8%), 4 were high school graduates (17.4%), 4 held master's degrees (17.4%), 2 had associate degrees (8.7%), 1 had completed secondary education (4.3%), and 1 did not specify her education level (4.4%). Teacher demographics are also presented in Table 2. All the teachers were university graduates with professional experience ranging from 13 to 25 years. The youngest teacher was 34 years old, while the rest were over 40, with the oldest being 49. Finally, Table 3 outlines the children's demographics. There were 16 girls and 7 boys, with ages ranging from 65 to 76 months.

Table 1. Parent demographics

Variables	Variable categories	Frequency (f)	Percentage (%)
Gender	Female	17	73.9
	Male	6	26.1
Age (Years)	25-35	7	30.4
	36-45	12	52.2
Education	56-65	1	4.3
	Secondary	1	4.3
	High school	4	17.4
	Associate degree	2	8.7
	Bachelor's degree	11	47.8
	Master's degree	4	17.4

Table 2. Teacher demographics

Variables	Variable categories	Frequency (f)	Percentage (%)
Gender	Female	6	100
Age (Years)	34	1	1.8
	40	2	3.6
	41	1	1.8
	44	1	1.8
	49	1	1.8
Education	Bachelor's degree	6	100
Experience (Years)	13	2	3.6
	14	1	1.8
	20	1	1.8
	23	1	1.8
	25	1	1.8

Table 3. Children's demographics

Variables	Variable Categories	Frequency (f)	Percentage (%)
Gender	Girl	16	69.56
	Boy	7	30.44
Age	65-72 months	13	56.52
	73-76 months	10	43.48

2.3. Data collection

For qualitative data, interviews were conducted with parents and teachers to explore their views on the effects of the pandemic, its influence on school readiness, and their expectations for mitigating its effect. Due to pandemic-related restrictions, interviews were carried out remotely via video conferencing platforms, with each interview lasting an average of 30-45 minutes. Each interview was audio-recorded and transcribed. Three early childhood education experts reviewed the questions to ensure the accuracy and understandability of the interview questions. Following this, a pilot study was conducted with teachers and parents, which revealed that some questions were too broad and needed further clarification. As a result, the questions were revised to specifically focus on COVID-19's impact on school readiness, and the final version was used to collect qualitative data.

Moreover, quantitative data were collected using the Metropolitan School Readiness Test, developed by Hildreth et al. (1995) and adapted to Turkish by Oktay (1980). All researchers administering the test were certified implementers. The test comprises six subtests with a total of 100 items, assessing various aspects of school readiness. The subtests include word comprehension (19 items), sentences (14 items), general information (14 items), matching (19 items), numbers (24 items), and tracing (10 items). Each child's overall score, based on six subtests, determined school readiness levels, classified into five categories (weak-dangerous, below average, average, above average, and superior). Four subtests measured reading readiness, while "numbers" and "tracing" assessed numerical readiness. The combined score reflected general school readiness.

2.4. Data analysis

Data gathered from interviews was analyzed using content analysis. Themes were developed through an iterative coding process, where initial codes were adjusted and grouped into broader themes based on the frequency and relevance of responses. When analyzing, direct quotations are often utilized to reflect the views of those

interviewed/observed (Yıldırım & Şimşek, 2011). MaxQda 2022 software was used in analyzing qualitative data. For quantitative data, IBM SPSS 24 software was used to conduct descriptive statistics. Considering the total scores from taken subtests in the Metropolitan School Readiness Test, children's reading, numerical, and general readiness levels were determined.

2.5. Trustworthiness

To ensure trustworthiness in the qualitative part, themes were identified and arranged following Thomas's (2006) thematic analysis approach. During the interviews, non-directional questions were used to prevent obtaining socially desirable responses, as suggested by Patton (2015). Verbatim accounts of participants' responses were included to enhance the accuracy of data representation. Through field expert consultation, peer debriefing was conducted with professionals to enhance confirmability and reduce potential researcher bias (Creswell & Plano Clark, 2018).

For quantitative data, a validated assessment tool and statistical software program were utilized to ensure construct validity (Fraenkel & Hyun, 2016). Moreover, standardized procedures were meticulously followed to increase internal validity. Specifically, the Metropolitan School Readiness Test was administered according to established guidelines by its developers. Afterward, researchers double-checked all scores to ensure accuracy and eliminate data entry errors (Watts & Pattnaik, 2023). Finally, all data were integrated and compared to identify convergence, divergence, consistency/inconsistency, and/or relationships.

2.6. Ethics

Data collection began after gaining ethical approvals from a university's Human Research Ethics Committee (2021-02/06) and the Ministry of National Education [MoNE] (document number: E-14588481-605.99-24960456). Participation in the study was voluntary. Verbal and written consent obtained from all participants. Participants are assured of the confidentiality of their responses. Each participant was assigned an ID number to ensure confidentiality. Special attention was given to the potential stress that could arise from discussing the pandemic's impact on children.

3. Findings

3.1. Derived from qualitative data

In the Results derived from interviews were examined according to parents' and teachers' self-reports. Each theme was explored under the categories of the effect of the pandemic, self-reported practices, and expectations from others (See Table 4 and Table 5).

3.1.1. Parents' self- reports

Participating parents ($n = 23$) were queried about COVID-19's effects on school readiness, their self-reported practices to increase school readiness, and their expectations

from others (i.e., teachers and MoNE) (see Table 4). Regarding the effects of COVID-19 on school readiness, most parents ($n = 17$) reported negative effects. In relation to socio-emotional development, many parents reported children's worsening 'social skills' due to the pandemic ($n = 11$). For instance, P18 and P7 emphasized the pandemic's negative effect on children's peer socialization. P18 stated, 'Our child interacted late with peers because of the pandemic. I observed the pandemic affected her socialization, harmed her communication skills, and caused her to be introverted'. Similarly, P7 emphasized, 'I believe the school closures negatively affected school readiness because my child did not have a chance to play with peers. They largely missed opportunities to socialize and develop relationships'.

Also, a few parents ($n = 2$) mentioned the 'emotional impact' of the pandemic on their children. For instance, P16 expressed concerns about children's emotions related to COVID-19, stating, 'It was difficult and worrying enough for children to hear commands such as fear of contagion, the obligation to wear a mask, and the constant disinfection of hands.' Furthermore, some parents ($n = 3$) mentioned the negative impact of the pandemic on their children's poorer 'physical development'. P9 expressed, 'I think my child cannot develop as expected physically because of environmental factors which affected his development and lack of school education.' Additionally, parents expressed 'increasing in screen time' ($n = 2$) and 'delay in starting school' ($n = 2$) as negative effects of the pandemic on school readiness. Regarding the delay in starting school, P5 implied, 'It was necessary to attend kindergarten one year ago, that was 2020, but he could attend in 2021.' Additionally, P4 expressed, 'During COVID-19, children spent all their time at home. So, I couldn't control the time my child spent watching cartoons and playing on a tablet. It was too much.'

Secondly, parents ($n = 23$) were queried about their self-reported practices to prevent COVID-19's negative effect on children and to increase school readiness. Accordingly, some parents ($n = 11$) primarily focused on children's language development. Their self-reported practices regarded 'reading books' ($n = 8$) and 'daily conversations with their children' ($n = 3$) to support language development. P9 stated, 'We spent 15 minutes reading every day for language development', and P4 stated, "We definitely chat about everything and answer his questions.'

According to self-reports, parents made efforts to improve their children's self-care development ($n = 9$) through 'teaching hygiene behaviors' ($n = 5$) and 'giving responsibility at home' ($n = 4$). P2 mentioned, 'We supported our daughter about her cleanliness without getting help because we were under extreme conditions. She has to learn.' While, P16 stated, 'We give responsibilities such as setting the table, helping with housework, and tidying up toys.'

Moreover, parents supported their children's cognitive development ($n = 7$) through activities such as 'doing educational magazines' ($n = 4$), 'doing experiments' ($n = 2$), and 'playing board games' ($n = 2$). P16 reported, 'We subscribed to monthly children's

magazines and started doing activities to support my child's development.' Similarly, P11 emphasized, 'In COVID-19 lockdowns, we conducted experiments and played board games.'

To improve motor development ($n = 6$), parents did 'activities supporting fine motor skills' ($n = 4$) and 'activities supporting gross motor skills' ($n = 2$). P18 gave an example of gross motor skill activities, 'On weekends, we played sports and did balance games to support our child's physical development', while P5 emphasized fine motor skills, 'We try to support motor development with activities such as painting, line work, cutting, and sticking.'

Following lockdown, parents also attempted to support children's socio-emotional development ($n = 8$) by 'spending time outside of the home' ($n = 8$) and 'supporting children's interaction with social environment' ($n = 8$). P9 explained their practices; 'We tried to bring them together; we allowed him time outside in parks and gardens. We tried to ensure socializing as much as possible. For example, going to the theatre, museum, and/or cinema.'

Thirdly, parents were queried regarding expectations from others. Regarding teachers, several parents ($n = 13$) expressed satisfaction with their efforts and had no additional expectations. For instance, P16 expressed, 'Our teacher has done everything she can. It will continue, and I don't have extra expectations.' Moreover, some teachers ($n = 7$) mentioned their expectations from teachers regarding 'organizing and encouraging to attend social activities' ($n = 7$). P8 explained, 'I expect children to participate in social activities. During lockdown, I couldn't support children's socialization, so teachers may do something.' Moreover, a few parents implied 'supporting the print awareness' ($n = 2$) and 'accelerated education' ($n = 1$) to make up for educational deficiencies. P11 expressed, 'Maybe more work on print awareness by teachers to remediate deficiencies. To close the pandemic gap, teachers can reinforce topics and accelerate education.'

Whereas parents had different expectations from MoNE. Many parents ($n = 12$) expected MoNE supporting schools from several aspects. These were providing 'materials and equipment' ($n = 6$) and 'financial support' ($n = 3$) as well as 'appointing psychological counselors to school' ($n = 3$). Regarding these issues, P7 expressed, 'I expect all children equal opportunity to free internet and tablet-pc. Schools should be better supported financially'. P13 stated, 'To overcome children's fears and anxieties, school readiness assessments should be conducted, and expert support provided through a pedagogue.' Moreover, some parents ($n = 7$) expected 'equal educational conditions for all children'. P4 expressed, 'I expect the elimination of all gaps and differences between public and private schools. Everyone should have equal rights to overcome the pandemic's detrimental effects by supporting their development.' Also, three parents expected 'updating the curriculum' by lightening children's academic load during primary school and arranging curriculum according to developmental levels. P9 expressed, 'In future education, I wish first graders' academic load be reduced, and instead, games and content such as painting-music-drama be planned where they can socialize and improve their physical development.' Another parent expected from MoNE 'changing in school starting age' for children affected

negatively by the pandemic. P2 stated, 'I think these children should start school a year late. They lack most skills needed for schooling like physical and social skills'.

Table 4. Parents' self-reports

Theme	Category	Sub-category	Code	Sub-code
Parents' self-reports	Effect of pandemic	Negative effect (n=17)	Social skills (n=11)	
			Emotional impact (n=2)	
			Physical development (n=3)	
			Increasing in screen time (n=2)	
			Delay starting school (n=2)	
		No effect (n=6)	-	
Self-reported practices	Language development (n=11)	Reading books (n=8)	-	-
		Daily conversations (n=3)	-	-
	Self-care development (n=9)	Teaching hygiene behaviors (n=5)	-	-
		Giving responsibility at home (n=4)	-	-
	Cognitive development (n=7)	Doing educational magazines (n=4)	-	-
		Doing experiment (n=2)	-	-
		Playing board games (n=2)	-	-
	Motor development (n=6)	Activities supporting fine motor skills (n=4)		
		Activities supporting gross motor skills (n=2)		
	Social-emotional	Spend time outside of the home (n=8)		

	development (n=8)	Supporting children's interaction with social environment (n=8)
Expectations from others	About teachers	No extra expectation (n=13) Organizing encouraging to attend social activities (n=7) Supporting the print awareness (n=2)
		Accelerated education (n=1)
About MoNE	Supporting school (n=12)	Material and equipment (n=6) Financial support (n=3)
		Appointing psychological counselors to schools (n=3)
	Equal educational conditions for all (n=7)	
	Updating the curriculum (n=3)	
	Changing in school starting age (n=1)	

3.1.2. Teachers' self-reports

Analysis Participating teachers ($n = 6$) were queried regarding COVID-19's effects on school readiness, self-reported practices to increase school readiness, and expectations from others (i.e., parents and MoNE) (Table 5). All teachers ($n = 6$) reported negative effects of COVID-19 on children's school readiness. In relation to socio-emotional development, teachers noted negative effects on children's 'social skills' ($n = 4$) and 'self-confidence' ($n = 2$). T2 expressed, 'I have observed many negative consequences. Especially social skills, peer interaction, etc. They regressed', while T3 said, 'The pandemic negatively affected

children's self-esteem. I observed lack of self-confidence. Most often, they are reluctant to start a conversation.'

Moreover, some teachers highlighted COVID-19's negative effect on children's cognitive development by focusing on 'attention deficit' ($n = 3$) and 'increasing in screen time' ($n = 3$). T5 stated, 'I think COVID-19 affected children cognitively. I observed children's attention span decreasing. They find it difficult to concentrate.' They mentioned children's higher levels of screen time, stating the pandemic's negative effect on children. T4 implied, 'Time spent by children in front of the screen increased during COVID-19 due to limited social space.'

Additionally, a teacher (T5) expressed the pandemic's detrimental impact on children's language development, emphasizing 'worse language skills' ($n = 1$). She expressed, 'I find it difficult to understand some children. They have great imagination but find it difficult to express their inner world. I imagine it is due to their being exposed to too much technology at home, which only offers one-way communication.' Another teacher (T2) emphasized the pandemic's impact on children's language development by stating, 'I observe children's language and communication skills have been disrupted. Children find it difficult to talk appropriately, especially at younger ages.' Other than language development, the teacher (T1) explained children's 'worse motor skills' ($n = 1$) by stating, 'Some children lack skills in appropriately holding a pen, which is important for school readiness'.

Moreover, teachers ($n = 6$) were asked about self-reported practices to mitigate COVID-19's negative impact on children and enhance school readiness. Half of the teachers ($n = 3$) reported 'preparing worksheets and activities for learning at home.' T2 stated, 'We prioritized family support during COVID-19. We sent worksheets and activities home, and activities for the Internet.' According to self-reports, a few teachers ($n = 3$) mentioned 'preparing school-based activities' ($n = 3$) for improving 'print awareness' ($n = 1$), 'attention span' ($n = 1$), 'express their thoughts' ($n = 1$), and 'spend time in the schoolyard' ($n = 1$). T3 explained, 'I included daily activities to increase children's phonemic awareness. I prepared pattern games and activities to increase their attention.' Additionally, T1 emphasized outdoor activities stating, 'I allow them more time in nature and with arranged garden games that support gross and fine motor skills. I prepare outdoor activities where children better express themselves. I give them opportunities to work collaboratively to solve problems.'

Lastly, teachers were queried about expectations from others to increase school readiness during pandemic. Regarding parents, half of the teachers ($n = 3$) expected parents' 'partnership and communication'. T6 stated, 'I expect parents to support the program implemented at school along with children's learning and frequently communicate about this with teachers.' Moreover, two teachers expected parents to 'spend more time in nature with their child' ($n = 2$). T1 claimed, 'It would be nice to spend more time in nature, because children had to stay at home during the lockdown. They need fresh air and outdoor play.' Additionally, one teacher anticipated parents to 'facilitate children's communication in social settings' ($n = 1$), while another ($n = 1$) wanted them to 'provide their

child quality time'. T3 emphasized, 'It may enable the child to communicate socially, at least by maintaining social distance. Children need each other to grow. They learn through social interaction.' Moreover, T4 expressed, 'I expect them to provide their children quality time necessary to benefit the child.'

Furthermore, teachers had different expectations from MoNE. Most teachers expected MoNE to provide 'equality in education' ($n = 4$). T6 expressed, 'Education providers have a responsibility in checking/measuring distinctions between public and private schools. I am not sure about equal opportunities in schools.' Additionally, teachers also expected MoNE to 'support for preparing internet-based games' ($n = 1$) and to 'provide interaction between coteries' ($n = 1$).

Table 5. Teachers' self-reports

Theme	Category	Sub-category	Code	Sub-code
Teachers' self-reports (n=6)	Negative effect of the pandemic (n=6)		Social skills (n=4)	
			Self-confidence (n=2)	
			Attention deficit (n=3)	
			Increasing in screen time (n=3)	
			Worse language skills (n=1)	
			Worse motor skills (n=1)	
	Self-reported practices		Preparing worksheets and activities for learning at home (n=3)	
			Preparing school-based activities (n=3)	To print awareness (n=1)
				Improving attention span (n=1)
				Enabling children to express their thoughts (n=1)

		Enabling children to spend the time in schoolyard (n=1)
Expectations from others	About parents	Partnership and communication (n=3)
		Spending more time in nature with their child (n=2)
		Providing their child quality time (n=1)
		Facilitating children's communication in social settings (n=1)
	About MoNE	Equality in education (n=4)
		Support for preparing internet-based games (n=1)
		Providing interaction between coterie (n=1)

3.2. Derived from quantitative data

3.2.1. School readiness level

For Metropolitan School Readiness Test results (See Table 6) were categorized into three areas according to the test's nature. While concentrating on reading readiness, two children (8.7%) were at the weak-dangerous level, while 11 children (47.8%) were below-average, eight children (34.7%) average, and two children (8.7%) above-average. Considering the average and above-average levels indicated the child is ready for school, this showed more than half of children (56.5%) did not have reading readiness.

Whereas regarding numerical readiness, three children (13%) were below-average, nine children (39.1%) average while seven children (30.4) were above-average, and four children (17.3%) at the superior level. Therefore, most children (86.8%) had numerical readiness. Moreover, focusing on children's general readiness, 12 children (52.2%) were average, two children (8.7%) above-average, eight children (34.8%) below-average, and one child (4.3%) at the weak-dangerous level. Accordingly, 61% of children were sufficiently ready to start primary school. Thus, although more than half of the children were ready to start school, many needed supports in improving reading readiness.

Table 6. Metropolitan School Readiness Test

	Weak-dangerous		Below-Average		Average		Above-Average		Superior	
	F	%	f	%	f	%	f	%	f	%
Reading readiness	2	8.7	11	47.8	8	34.7	2	8.7	-	0
Numerical readiness	-	0	3	13	9	39.1	7	30.4	4	17.3
General Readiness	1	4.3	8	34.8	12	52.1	2	8.7	-	0

4. Discussion

The COVID-19 pandemic brought about profound changes in various aspects of children's school readiness. The disruption of face-to-face education and widespread school closures resulted in critical changes in the daily routines of children and families.

According to Barnett et al. (2021), to understand pandemic-induced changes in children's development, opportunities for learning, and well-being, we need to focus on the experiences of people involved in childcare and education along with process outcomes. Therefore, the current study focused on the perspectives of preschool teachers and parents regarding the COVID-19 pandemic's impacts on children's school readiness. While most

parents expressed concern about difficulties in socio-emotional development, relatively fewer parents reported being concerned about physical development difficulties due to the pandemic. According to Wasmuth (2020), COVID-19 pandemic interfered with children's social interactions. In a similar vein, parents in this study reported that children missed valuable chances of socialization as well as enhancing communication skills, both of which are important constructs of school readiness. Additionally, teachers reported COVID-19 negatively affected children's self-confidence and socio-emotional development, with children struggling to start conversations due to reduced peer interactions. Aligning with the findings by Cherry et al. (2024), who identified teachers' communication challenges, including online instruction during the pandemic, the current study sheds light on the importance of in-person interactions. Therefore, to mitigate these adverse effects, further opportunities for face-to-face interactions in schoolyards and parks are essential for supporting children's socio-emotional development.

Additionally, parents expressed another concern related to the pandemic period. They mentioned children's higher level of screen time during the lockdowns. So, many parents stated that they had difficulty in regulating the amount of time which their children's time spent on electronic devices. According to Lau and Lee (2021), both parents and children relied on technology for communication during the pandemic. Since parents' daily routines, working conditions, and schedules changed abruptly, they used technology to occupy their children. Lau and Lee (2021) revealed children spent increased screen time during the pandemic, exceeding the World Health Organization's [WHO] (2019) recommendations. To address this concern, it is recommended that parents can be supported in reducing children's screen time by offering alternative physical, social, and educational activities.

Teachers also reported other adverse pandemic-related impacts on children's attention spans. Attention is critical for cognitive processes needed in school readiness and academic success (Welsh et al., 2010). Deoni (2022) noted that children showed a reduction in overall cognitive development during the pandemic. Similarly, in this study, teachers reported children having difficulty concentrating, while both teachers and parents cited increased screen time contributing to attention deficiency. Therefore, it is suggested to provide children with more hands-on activities on attention and cognitive development.

Parents also reported practices that primarily supported children's language development through reading and engaging in conversation during pandemic. Supporting children's language and literacy skills is crucial for future school readiness (Duncan et al., 2007). Other than language development, parents also mentioned practices related to personal hygiene. Thus, due to the pandemic, parents thought children were deficient in several developmental areas, which negatively impacted their school readiness.

Interviews on expectations from other agencies indicated that, while fewer parents and teachers had specific expectations from one another, both had basic expectations from MoNE regarding children's school readiness. In the literature, parents generally worried about their children's well-being during the pandemic (Lau & Lee, 2021). To lessen parental concern, greater support should be provided by schools and through government policies. Similarly, the current study highlighted a need for strategies of MoNE to support

children's school readiness. Participants emphasized their expectations from MoNE such as providing materials and equipment, ensuring psychological support, updating the curriculum, and ensuring equality among institutions. Lau and Lee (2021) emphasized providing support for families and schools to help stakeholders manage stress. Moreover, in the literature, schools potentially offer distance learning or additional support for children who could not attend school during the pandemic (Tran et al., 2020). Similarly, in the current study, ensuring equal educational opportunities for institutions is necessary.

Despite parents' concerns about children's school readiness and development, the current Metropolitan School Readiness Test results showed 61% of children were sufficiently ready for primary school. This paradox may result from parental engagement during in-home learning. Parents reported contributing to language development, playing board games, and investigative magazines. Parents played a greater roles in supporting children's learning to remediate COVID-19's negative impacts. This increased involvement can positively impact children's school readiness. Additionally, resilience capacity enables children to successfully adapt and respond to changes related to risk factors (Neumann, 2023). Children who are resilient can thrive regardless of adversity and can take advantage of adverse situations (Manyena et al., 2011). Therefore, according to the literature, it can be inferred challenges posed by the pandemic prompted children to develop coping strategies and adapt to changing conditions, which in turn, may have contributed to their overall school readiness. Considering this, opportunities should be provided for children to build resilience at home and in school, which is crucial for their development and learning (Archdall & Kilderry, 2016; Neumann, 2023).

Resilience and adaptability can aid children, families, and teachers to better manage negative consequences faced in future disasters. Therefore, resilience capacity is required for challenging situations even after COVID-19. Furthermore, there is a positive relationship between social-emotional skills and resilience (Martinsone et al., 2022). Accordingly, improving children's social-emotional development through family-school partnerships can be effective for improving their resilience capacity. Additionally, the resilience levels of educators can play a protective role. In Kaveri et al. (2022), 284 teachers across five countries showed resilience facilitated child and parent interaction during COVID-19. Their study also showed a correlation between resilience levels and professional development. Particularly, teachers' digital capabilities in online learning platforms enable children to learn from videos and activities alongside their parents at home. Thus, innovative pedagogical approaches and teacher training programs should be required, especially in light the current challenges in early childhood education.

4.1. Limitations & recommendations

The current study results were based on data from 23 parents, 23 children, and 6 teachers, which limits the generalizability. Moreover, the measurements on school readiness relied on the Metropolitan School Readiness Test, covers only numerical and reading readiness. Therefore, the test focused narrowly on cognitive development, missing other aspects of children's school readiness. It can be recommended to use multi-

dimensional assessments including socio-emotional and physical development, thereby providing a more holistic understanding of children's school readiness. Another limitation was that parental reports on COVID-19's on children's physical and socio-emotional development lack validation with child data. Further studies should explore other developmental domains using observational data or teacher assessments, which may offer more objective measures rather than relying solely on parental reports. Additionally, future research may examine school success among primary school children who experienced remote learning instead of in-person preschool education during COVID-19. Finally, longitudinal studies are recommended to assess long-term effects of pandemic-related changes on children's academic, social, and emotional outcomes, to inform educational practices and policies.

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No potential competing interest was reported by the author(s).

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The datasets generated during and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Author Contributions:

Author 1: Conceptualization, Supervision, Funding acquisition, Coordinator of the Project, Data Collection and Analysis, Writing-Review

Author 2: Data Collection and Analysis, Writing-Review, Reporting Findings

Author 3: Data Collection and Analysis, Methodology, Writing- Review

Author 4: Writing—Review and Discussion, Methodology, Editing

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