



Pre-K and Kindergarten Teacher Perception of School Readiness During the COVID-19 Pandemic

Kayla Murphy¹ · Keri Giordano¹ · Tanaysha Deloach¹

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Abstract

In 2020, the COVID-19 pandemic caused a mandatory shift from in-person instruction to online learning for many young children. Teachers needed to adjust to virtual teaching, children were isolated from their peers, and parents played a bigger role in learning during the pandemic. In 2021, the shift back to in-person learning occurred. Research has already shown the negative influence COVID-19 had on students' mental health; however, limited research has examined the impact of the pandemic on school readiness. In this study, using the Head Start domains of school readiness, 154 Kindergarten and Pre-K teachers compared current student school readiness to the readiness of their students prior to the pandemic. Results showed that nearly 80% of teachers felt that overall student functioning was Worse or Much Worse than before the pandemic; no teachers reported functioning was overall much better. Teachers most frequently identified the *Ready to Learn* and *Social-Emotional Development* domains as the areas of greatest struggle for their students; *Physical Development* was the least frequently reported. Chi-square tests were used to examine the association between teacher demographics and overall school readiness and domain of greatest struggle; no significant relationships were found. Future directions and limitations of these results are discussed.

Keywords School readiness · COVID-19 · Teacher perceptions · Kindergarten · Pre-kindergarten

Introduction

In 2020, COVID-19 caused a major shift in early education. Many programs moved from in-person instruction to online remote learning, some transitioning to a hybrid model and others closing down entirely. This virtual learning shift caused people to become concerned about young children's educational and social development. Young children were confined to their homes, unable to socialize with peers or attend early learning programs fully. The school readiness skills typically developed in pre-kindergarten (PK) and kindergarten (K) are the building blocks of future development and later achievement (Duncan et al., 2007; Karabulut, 2013), and it is unknown what impact COVID-19 had on this readiness. The present study examined PK and K teachers' perceptions of changes in school readiness during the COVID-19 pandemic to begin to address these concerns.

School Readiness

School readiness is often discussed when teachers and parents describe the transition from early learning settings to elementary schools. Unfortunately, there is no universal definition for school readiness. For the purpose of this study, school readiness was defined in alignment with Head Start's definition as "skills, knowledge, and attitudes necessary for success in school and later learning and life" (U.S. Department of Health & Human Services, 2022). School readiness focuses not just on cognitive and academic success, but also emphasizes social-emotional skills and physical well-being (Halle et al., 2012). Head Start's framework describes school readiness as being comprised of five domains: (1). *Approaches to Learning*, (2). *Social and Emotional Development*, (3). *Language and Literacy*, (4). *Cognition*, and (5). *Perceptual, Motor, and Physical Development*. In their early learning programs, children develop skills, knowledge, and attitudes across these five multifaceted domains in order to become competent and ready to start school.

✉ Kayla Murphy
kamurphy@kean.edu

¹ Advanced Studies in Psychology, Kean University, 215 North Ave, Hillside, NJ 07205, USA

The Five Domains of School Readiness

Approaches to Learning, the first domain of school readiness, addresses flexible thinking, impulsivity, creativity, working memory, perceptual reasoning, and curiosity. Early education helps support development in this area, as it is the first experience where a child is regularly challenged in a social and academic environment (Bustamante et al., 2017). The way a child approaches learning is the foundation that supports other academic subjects, including mathematics, science, and reading. *Social and Emotional Development* pertains to a child's ability to socialize with peers and adults while also being able to self-regulate their emotions. This encompasses the ability to follow directions, pay attention, communicate needs verbally, and be cooperative with others (U.S. Department of Health & Human Services, 2022). Research suggests that emotional regulation skills influence all other aspects of school readiness (Fung et al., 2020; Blair & Raver, 2015). In fact, many teachers and parents agree that a kindergartener's ability to regulate their emotions and socially interact with others appropriately is the most important aspect of school readiness (Halle et al., 2012).

The *Language and Literacy* domain focuses on understanding spoken language, incorporating new vocabulary, comprehending stories, and recognizing letters and sounds (U.S. Department of Health & Human Services, 2022). These behaviors lead to conventional reading and writing skills, influencing how a child communicates (Halle et al., 2012). Research has shown that these early reading skills are fundamental to overall school success (Dickinson & Neuman, 2007). The *Cognition* domain, which includes mathematical and scientific reasoning, can best be defined as the comprehension of general knowledge, including the understanding of properties of objects, relationships between events and people, and academic knowledge (Halle et al., 2012). Early understanding of mathematics, science, and literacy forms the academic foundation required for future school success (Lumauridlo et al., 2021).

Finally, the *Perceptual, Motor, and Physical Development* domain looks at a child's capability to demonstrate their use of large and small muscle movements as well as their understanding of personal hygiene and safety. Although physical development and motor skills are not always considered important in terms of school readiness, they can clearly impact a child's success in school. If a child is not in good health, they will not be able to focus on learning. Additionally, if a child has poor fine motor skills, it can influence their writing and performance within the classroom (Lumauridlo et al., 2021). Large muscle movements are important due to the promotion

of more interactions within the environment (Kit et al., 2017). Large muscle movements help children walk, run, jump, skip, and throw, which are all related to activities implemented in the early childhood classroom (Wang, 2004). All of these skills are vital to a child's physical well-being and school readiness. However, studies tend to neglect to assess how physical well-being can influence a child's performance in school (Halle et al., 2012).

Teacher Demographics

When a child is able to succeed in the school readiness domains, they achieve greater long-term academic success along with improved self-regulation skills and high levels of school adjustment (Abenavoli et al., 2017). It is essential to recognize that school readiness is a multidimensional concept that does not just involve the knowledge of academic concepts but also involves the teachers who are educating the students and assessing to determine if each child is ready for school. Teacher perceptions of kindergarten school readiness are often used to predict children's future academic success. However, few articles focus on the fundamental factors that contribute to teacher perceptions of school readiness. Examining the factors that contribute to how teachers conceptualize readiness as enactors of training and policy (Hustedt et al., 2017) can offer more context to the teacher's responses. The impact of factors such as years of teaching, teacher age, teacher certification, and school type are areas that the researchers expect to inform school readiness profiles, as teacher perception is impacted by these personal components.

Previous research on kindergarten teachers' beliefs about school readiness collected data from teachers with bachelor's degrees, a majority of them also having a master's degree, working in public schools, and having a mean of 10 years teaching kindergarten (Hustedt et al., 2017). This demographic profile is similar to other studies that have also looked at teacher perceptions of school readiness (Smith & Glass, 2019; Wesley & Buysse, 2003) and the factors that impact them. Within this population, Hustedt and colleagues (2017) suggest that school types (Head Start, public, private/home-based), communities (school district), and an educator's geographic location (state, suburban/urban) may be the most influential factors contributing to perceptions of school readiness. However, additional factors can also influence how a teacher perceives school readiness. For example, Lin and colleagues (2003) found that older kindergarten teachers were significantly less likely to have high expectations for academic skills than younger teachers, who responded more favorably to support the importance of academic skills. However, these differences were not seen when considering children's social skills. When it comes

to years of teaching experience and teacher certification, a meta-analysis of 32 studies that looked at educators' years of experience (McMullen et al., 2020) found results to be mixed and inconclusive as they related to children's social-emotional, academic, and physical outcomes, indicating that there may be other factors that impact school readiness besides years of teaching that are not being accounted for. Halle et al. (2012) found no association between teacher level of educational attainment and children's achievement prior to Kindergarten. Olayinka-Bello and Brackin (2021) also found no causal effects when they looked at the certification of lead teachers and student scores from assessments of school readiness. However, there was a significant relationship between students' assessment scores and the level of educational attainment of assistant teachers, suggesting that early childhood teacher certification does not significantly impact school readiness but that education level overall may be associated.

Including school type (Head Start, public, private/community based) complicates the assumptions that prior research has made about teacher years of experience and teacher certification and their impact on teacher perceptions and beliefs. In their review of early education centers, Coley et al. (2016) found that Head Start and publicly funded schools had higher quality programs. However, they noted that despite the higher global quality of public schools and Head Start programs, their results showed the largest effect size increase in math, reading, and language skills for private schools serving students from low-income families. In contrast, Anasari and colleagues (2021) found that for Pre-K students, school type (home-school, public, Head Start, and private) showed no association with a Pre-K student's academic success. These findings together suggest inconsistency regarding how factors affect teacher perceptions when it comes to school readiness.

Evolution of School Readiness

School readiness has been a hot topic of discussion for the last 40 years. Research shows that successful academic performance in later grades (i.e., middle school) was predicted by student school readiness levels in kindergarten (Jensen et al., 2021; Slutzky & DeBruin-Parecki, 2019). Smith and Sheperd (1988) posited that a common belief held by many kindergarten teachers is that readiness comes with age. One study from 1988 in the United States stated that kindergartners entering school for the first time showed some difficulty (Williams et al., 2019). Only two-thirds recognized their letters, 29% also recognized beginning sounds, 94% recognized single numerals and shapes and could count to 10, and 58% could count beyond 10, recognize sequence patterns, and use

nonstandard units of length to compare objects (Williams et al., 2019).

The demand for school readiness continues to grow nationwide; however, the goals and objectives for making children school ready are constantly changing. When comparing research articles throughout the decades, it seems that what actually defines school readiness is continually shifting. In 1989, teachers focused on cognitive aspects, such as children knowing basic concepts, including shape, number, and color recognition, as the most important aspect of school readiness (Hustedt et al., 2017). Ten years later, a switch occurred, and the discussion of children's social and emotional skills became one of the vital aspects of school readiness (Hustedt et al., 2017). With this shift, teachers reported communication and emotional regulation skills as being more important than academic skills when describing school readiness (Hustedt et al., 2017; Wesley & Buysse, 2003). Interestingly, most teachers express that the academic domain is the least significant regarding school readiness; however, academics remain a prominent focus of kindergarten readiness assessments (Hustedt et al., 2017; Jensen et al., 2021). Despite this belief, academic pressures have been placed on children and their teachers, making kindergarten a more rigid environment (Wesley & Buysse, 2003). It is noted that while there is significant research on the importance of school readiness and what makes up school readiness, there seems to be limited research on actual indicators of school readiness PK and K pre-pandemic.

Pandemic Impact on Teaching and Development

In an attempt to keep people safe and prevent the spread of COVID-19, many schools made a sudden transition to virtual learning. Early childhood centers advised parents to keep their children at home (Linnavalli & Kalland, 2021). This shift to a more isolated environment, mixed with sudden online learning, has impacted not just students' academic performance, but their overall development as well. Research findings demonstrated that infants who were born during the pandemic have shown a reduction in verbal language skills, motor skills, and overall cognitive development (Deoni, 2022). Children who were isolated at home and did not continue attending their early childhood learning center (ECLC) during the pandemic showed a lack of executive cognitive function skills compared to children that continued attending ECLCs (Davies et al., 2021).

Children were not the only ones affected by the COVID-19 crisis. In one research study that asked kindergarten teachers about the difficulties of online learning, teachers reported that one challenge was that parents were too busy to support their children (Safrizal et al., 2021). There was

a lack of synergy in the collaboration between parents and teachers while children were virtually learning (Safrizal et al., 2021). Teachers also reported it was difficult to get younger students to focus and stay on task (Safrizal et al., 2021; Prananda et al., 2021) discussed how distance learning during the pandemic created barriers between teachers and their students. Teachers reported feeling underprepared, unqualified, and unsupported during the start of virtual learning, which led to many quitting during the 2020–2021 school year (Safrizal et al., 2021; Dos Santos, 2021). This now causes concern about the lack of qualified early education teachers currently remaining in the profession (Dos Santos, 2021) to support children as they resume in-person ECLC attendance.

Present Study

Given the importance of school readiness and the potential impacts COVID-19 may have had on this readiness, our exploratory study aimed to describe teacher perceptions of school readiness of PK and K students during the pandemic. More specifically, we examined the perception of: overall readiness, the five domains of readiness, perceived readiness in 12 specific readiness goals, and preparedness for the following grade. We then looked at factors that may be associated with perceptions of overall school readiness (current grade taught, experience teaching older grades, school type, and certification) and areas of greatest challenge. Finally, we examined whether years of experience predicted whether teachers thought children would be ready for the next grade.

Method

Procedures

After obtaining IRB approval, two main methods were utilized to recruit potential PK and K teachers to take part in this study. Researchers used a publicly available list of schools with PK and/or K classes. We then Googled each school and, if we were able to find the school website, searched it for teacher and/or administrator email addresses. Teachers were sent an email inviting them to take the survey, and administrators were asked to forward the email to their relevant teaching staff. Snowball recruitment was also utilized, with researchers posting recruitment flyers on social media and requesting potential participants to share information about the study with others interested in participating.

Measures

Potential participants were sent a link to a one-time anonymous online survey administered through Qualtrics. Inclusion criteria was: currently being a K or PK teacher and also teaching K or PK prior to the pandemic. In the 24-item survey, which took a median of 6.32 min to complete, participants were first asked how current student functioning compared to student functioning prior to the pandemic. They were then shown a series of 12 school readiness goals, representing each of the five domains of readiness, and were asked to rate each criterion on a 5-point Likert scale (ranging from much worse to much better) comparing their current students' functioning to the functioning of past students at the same time of year prior to the pandemic. Participants were given the opportunity to discuss their responses, then asked in which of the five domains their students were struggling in the most (*all areas and students are not struggling* were also provided as potential responses). The last question asked if teachers thought that the majority of their students were ready for the next grade and invited them to explain their answers. The final section of the survey included demographic questions, examining participants: years of experience teaching, type of school employed in, certification, other grades previously taught, gender, race/ethnicity, and age.

Participants

Our recruitment methods resulted in 197 people meeting inclusion criteria and consenting to participate in the study. Of these, 43 were removed due to incomplete data (defined as not completing all of the school readiness questions; those with missing demographic information were retained and removed from individual analyses as needed), resulting in 154 participants remaining for analysis. The majority of participants (82.5%; $n = 127$) were from New Jersey, where most recruitment took place, and the rest taught in other states, including California, Connecticut, Georgia, Kentucky, Massachusetts, New York, and Texas. The majority were White (68.2%; $n = 105$), female (92.2%; $n = 142$), and teaching in a public school setting (70.8%; $n = 109$). Approximately a quarter of the sample reported being in the 31–40 year age range (26.0%; $n = 40$) and around a third have been teaching between 6 and 15 years (35.0%; $n = 54$). Roughly 40% had previously taught a grade above kindergarten (40.9%; $n = 63$). When looking at certification, more than half reported holding an early childhood teaching certification (58.4%; $n = 90$), while nearly a quarter reported holding a special education

Table 1 Teacher Demographics

	%	n
Current grade taught		
Pre-K	39.0	60
Kindergarten	25.3	39
Pre-K/K combined	35.6	55
State		
California	0.6	1
Connecticut	1.3	2
Georgia	5.2	8
Kentucky	0.6	1
Massachusetts	4.5	7
New Jersey	82.5	127
New York	4.5	7
Texas	0.6	1
How long teaching		
0–5 years	13.6	21
6–10 years	17.5	27
11–15 years	17.5	27
16–20 years	16.9	26
20+ years	29.9	46
Prefer not to answer	4.5	7
School type		
HeadStart	3.9	6
Public school	70.8	109
Childcare center	16.9	26
Preferred not to answer	4.5	7
Grades taught prior		
Early childhood	55.2	85
Older grades	40.9	63
Prefer not to answer	3.9	6
Certification in special education		
Yes	24.7	38
No	70.1	108
Prefer not to answer	5.2	8
Certification in early childhood		
Yes	58.4	90
No	36.4	56
Prefer not to answer	5.2	8
Teacher race		
White	68.2	105
Black or African-American (e.g., Jamaican, Haitian, Nigerian, Ethiopian, Somalian, etc.)	7.1	11
Hispanic, Latino, or Spanish origin (e.g., Mexican or Mexican-American, Cuban, Puerto-Rican, Salvadoran, Dominican, Columbian, etc.)	13	20
Prefer not to answer	9	14
Asian (e.g., Chinese, Filipino, Asian-Indian, Vietnamese, Korean, Japanese) or Asian-American	0.6	1
Middle Eastern or Northern African (e.g., Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian, etc.)	1.3	2
Multiracial or multiethnic	0.6	1
Teacher gender		
Female	92.2	142

Table 1 (continued)

	%	n
Male	2.6	4
Prefer not to answer	5.2	8
Teacher age		
< 30 years old	15.6	24
31–40 years old	26.0	40
41–50 years old	24.0	37
51–60 years old	23.4	36
61 + years old	5.8	9
Prefer not to answer	5.2	8

N = 154

certification (24.7%; *n* = 38). See Table 1 for more information on participant demographics.

Results

We first examined how teachers felt their current students' functioning compared to student functioning prior to the pandemic. Over half (54.5%; *n* = 84) felt that student functioning was *Worse* than before the pandemic; approximately one quarter (24.7%; *n* = 38) felt functioning was *Much Worse*, while less felt it was *The Same* (17.5%; *n* = 27) or *Better* (3.2%; *n* = 5). No teachers reported that student functioning is much better than it was prior to the pandemic. When looking at individual goals across the domains (see Table 2), teachers most frequently reported emotional regulation, adherence to rules and routines, persistence, and literacy skills as being *Worse* or *Much Worse* and that gross motor skills were most likely to be *The Same*. Teachers were

then asked to expand on their responses to these questions. The most frequently recorded themes in these responses revolved around gaps in social development, emotional skills, and overall school readiness. One participant summarized *Cooperative play and social-emotional skills have declined across the board, but other skills are the same or much better as those are able to be addressed one on one by parents*. Teachers frequently described concerns about standards/expectations (*While our curriculum has not changed at all, our starting point this year, even more than the last school year, was extremely behind*), parents (*Parents are not DOING ANYTHING AT HOME - this told me that they 10,000% rely on schools to teach their kids everything and Many of the parents were "helping" online, aka doing the child's work. Phonics was very hard to do virtually*), and the development of fine motor skills (*Students' fine motor skills were especially concerning. Many students struggled with pencil grip, cutting, and any writing activities*). Also less reported, themes of the persistence of children and

Table 2 School Readiness Domains

Domains	<i>n</i> (%)	Must worse	Worse	Same	Better	Much better
Overall school readiness	38 (24.7)	84 (54.5)	27 (17.5)	5 (3.2)	0	
Regulation of emotions	49 (31.8)	76 (49.4)	24 (15.6)	3 (1.9)	2 (1.3)	
Rules & routines	40 (26.0)	63 (40.9)	46 (29.9)	3 (1.9)	2 (1.3)	
Self-care	34 (22.1)	67 (43.5)	38 (24.7)	13 (8.4)	2 (1.3)	
Independent work	38 (24.7)	63 (40.9)	45 (29.2)	7 (4.5)	1 (.6)	
Persistence	40 (26.0)	69 (44.8)	36 (23.4)	8 (5.2)	1 (.6)	
Cooperative play	33 (21.4)	72 (46.8)	42 (27.3)	6 (3.9)	1 (.6)	
Problem solving	42 (27.3)	70 (45.5)	35 (22.7)	5 (3.2)	2 (1.3)	
Expressing needs	27 (17.5)	75 (48.7)	44 (28.6)	7 (4.5)	1 (.6)	
Literacy	40 (26.0)	63 (40.9)	41 (26.6)	8 (5.2)	2 (1.3)	
Math	36 (23.4)	64 (41.6)	48 (31.2)	5 (3.2)	1 (.6)	
Gross motor	20 (13.0)	43 (27.9)	86 (55.8)	5 (3.2)	0	
Fine motor	40 (26.0)	59 (38.3)	49 (31.8)	5 (3.2)	1 (.6)	

N = 154

Table 3 Area of Most Struggle within the school readiness domains

Readiness to learn	56	36.4
Social and emotional development	50	32.5
All	14	9.1
Language and communication	11	7.1
None	8	5.2
Cognitive development / academics skills	8	5.2
Physical development / motor	4	2.6

$N = 154$

teachers, increased mental health needs, and the challenges of learning virtually were also present.

At the domain level (see Table 3) when asked to identify the area of most struggle, participants most frequently responded with Readiness to Learn (36.4%; $n = 56$) and Social Emotional Development (32.5%; $n = 50$); Physical Development was the least reported area (2.6%; $n = 4$). Few participants indicated that students are struggling across all areas equally (9.1%; $n = 14$) or that there was no change in student struggles from prior to the pandemic (5.2%; $n = 8$). When asked if they thought the majority of their students would be ready for the next grade by the end of the school year, most teachers said yes (68.2%; $n = 105$). Teachers were then asked why/why not. For those who indicated that children would be ready to move on at the end of the year, the most frequently reported reasons revolved around the theme of “*I have/ I will.*” Comments such as “*I have been working hard to prepare them,*” “*Because I am a very good teacher!,*” and “*We’ve had to work harder than ever to get these kiddos to their expected place to be ready to move up. People forget us teachers are capable of the impossible, as it’s always expected of us*” highlight this theme. Teachers also reported that children would move on because they were ready or because the district/school would not retain them, even if it were needed. Interestingly, many teachers also gave responses in line with the theme “although they are academically ready, their social-emotional skills are lacking.” In their responses, teachers also described a need to shift standards/expectations (e.g. *We need to adapt to the students we have, regardless. I cannot hold a child back because of the pandemic. Our expectations should match the kids we serve each day and Seems counterintuitive to think they will be ready but all the students going to Kindergarten are across the board “in the same boat”*). Although less frequently reported, several other themes arose, including the fact that students were in person, that they had parental support at home, and that they are resilient.

When it comes to teachers who reported that their students would not be ready for the next grade, the most frequently cited reason was that the children were not ready academically, social-emotionally, or overall. Similar to this

reported information, another theme of students needing more time was present. The theme of standards/expectations also arose in this group, with teachers expressing concern that they haven’t been adjusted to meet the current needs of children. One participant explained *Expectations for students are too high post-pandemic. The world is different, children are different, and to expect my pre-K students to go to kinder at the same level of readiness as pre-pandemic is unfair to children and families. Expectations should change to meet students, not the other way around.* In line with the first responses, teachers who thought their students would not be ready also discussed the role of parents (*Parents are doing nothing to help their own students and it is all of our responsibility to teach them everything*) and the idea that even if children are not ready, they will move up anyway (*I know that they WILL be moved on and then the first-grade teachers will be frustrated too. I am in the middle of giving a sight word benchmark and SOOOOOO many don’t know the words*).

Chi-square tests of independence were utilized to examine the association between perceptions of overall readiness and each of the following variables: grade taught, whether an older grade was previously taught, school type, length of time teaching, and certification. None of the chi-square tests were significant. Chi-square tests of independence were also run to examine the association between perceptions of the area of greatest struggle and each of the following variables: grade taught, whether an older grade was previously taught, school type, length of time teaching, and certification. Again, no results were significant. Finally, a chi-square test was used to examine if there was a relationship between the length of time teaching and whether the teacher thought the majority of children would be prepared for the next grade. No significant relationship was found.

Discussion

This study aimed to describe K and PK teachers’ perceptions of school readiness during the COVID-19 pandemic. The majority of teachers perceived student readiness as being worse than before the pandemic. This was not unexpected, as several studies discussed the negative impact COVID-19 had on mental health and learning motivation (Prananda et al., 2021; Malboeuf-Hurtubise et al., 2021). Early childhood learning center students who were in isolation throughout quarantine showed a decrease in cognitive executive functioning skills (Davies et al., 2021). Gross motor skills were perceived as being the same. This may indicate that young children had adequate opportunities to engage in active play using their large muscles while at home.

Teachers reported that children struggled most with emotional regulation, adhering to classroom rules and routines,

and literacy skills. When it comes to emotional regulation, the pandemic had a large impact on mental health. Children were experiencing higher levels of anxiety, depression, hyperactivity, conduct problems, and a lack of social skills (Malboeuf-Hurtubise et al., 2021). Given this, it is not surprising that children struggled with self-regulation when they returned to the classroom. Additionally, classroom rules and routines are often very different from those at home, and exposure to these rules and routines increases understanding and compliance. Although rules and routines may differ from classroom to classroom, general school expectations remain the same. Whereas in prior years, it was likely that many K and PK children entered their classes with prior early learning experiences (e.g. preschool, childcare, etc.), during the pandemic, it is much more likely that the majority of children were entering early learning settings for the first time in K or PK. This likely resulted in a large group of students not being prepared for classroom expectations which aligns with research from Ansari et al. (2021), who found that non-enrolled Pre-K students performed significantly lower in executive functioning.

Finally, challenges with literacy skills may indicate that the development of these skills requires intentional hands-on instruction from a qualified educator (Kim, 2020). Several studies on factors of school readiness highlight the significance of teacher-child interactions for increasing outcomes in school readiness domains (Ansari et al., 2021; Olayinka-Bello & Brackin, 2021). Children's motivation to learn partially decreased while online learning, making it hard for them to focus (Prananda et al., 2021). Online learning with young children meant adult supervision was required, as young children were likely not well versed with technology for learning (Kim, 2020). While it may have been easier for parents to support the development of gross motor skills, literacy development requires a knowledge base that many parents may not have had or did not have the time to teach. As a result, children might be a year or more behind in literacy skills, which has been shown to be correlated with school readiness (Alston-Abel & Berninger, 2017; Scarborough et al., 1991).

When asked if their children would be ready for the next grade, the majority of teachers indicated yes, but the reasoning behind this endorsement was more varied. While some teachers described how children are ready, others suggested that while they are academically ready, their social-emotional development is not up to par. This, again, suggests that the mental health needs of young children are currently high. Additionally, these teacher perceptions replicate responses from prior research by Lin et al. (2003), where teachers showed moderately high expectations primarily on social behaviors; indicating a belief that self-regulation skills are crucial for school readiness and future academic outcomes. These results are not surprising since previous research has

shown a shift in the importance of social-emotional skills in kindergarten (Hustedt et al., 2017; Wesley & Buysse, 2003). Some teachers even label social-emotional competency as more important than academics in school readiness (Hustedt et al., 2017; Jensen et al., 2021) which may account for some responses indicating that students are not ready for the next grade. Others reported that ready or not the children would move on, due to policies and regulations that prevent the retention of young children. This sentiment was also expressed by those who felt students were not ready to move on, further explaining that while children are experiencing delays in their development due to the pandemic, academics and expectations have not shifted to meet this developmental pattern. An interesting theme from teachers who endorsed readiness to move on was confidence; in their responses, teachers communicated that their hard work and teaching ability would ensure that children would develop the skills needed to move on. A theme of parental responsibility arose for those who believed students were not ready. These teachers commented that if parents took on more teaching responsibility, the children would not be struggling in this way. This is consistent with prior work where teachers reported that the collaboration between parents and themselves was lacking (Safrizal et al., 2021). Some qualified teachers even quit due to the lack of support from the school and feeling unequipped for online learning (Dos Santos, 2021). These contrasting themes may suggest that perhaps it is the teacher's belief about the locus of control that influences their beliefs on school readiness. Locus of control can be defined as "the degree to which an individual feels that his reinforcements are contingent upon his or her actions" (Cohen et al., 1976, p. 1049). While further research is needed, this may indicate that encouraging teachers to approach their students with an internal locus of control can help influence their perception of school readiness.

Teacher demographics (age of teacher, grade taught, experience teaching older students, school type, years of teaching experience, and certification) did not predict teacher perception of school readiness overall, area of greatest struggle, or readiness for the next grade. Prior research has indicated that younger teachers have higher expectations for academic achievement (Lin et al., 2003) and that teacher certification of lead teachers does not impact preschool student school readiness in at-risk children (Olayinka-Bello & Brackin, 2021). Hustedt and colleagues (2017) discussed how geographic location, school type, and other teacher demographics could be influential factors in determining school readiness; however, results from our study showed no association between teacher demographics or school type and school readiness. Our results more closely align with the work of Halle and colleagues (2012), who also no association between school readiness and teacher educational attainment. It is important to note that the current study did

not make distinctions of responses based on the head or lead teachers like that done in prior research examining teacher certification and its impact on student school readiness conducted by Olayinka-Bello and Brackin (2021); which may make a difference. Government-funded Head Start programs provide teachers with more resources for school readiness (Coley et al., 2016), and Head Start programs and public schools demonstrate higher success when compared to private schools (Ansari et al., 2021). While prior research has also shown mixed results in this area (McMullen et al., 2020; Olayinka-Bello & Brackin, 2021), it is important to note that this pandemic is a new experience for *all* teachers. Teaching during the pandemic may have leveled the playing field in terms of these demographic factors in that this is an unknown area for all teachers. The teachers in our survey were all faced for the first time with pandemic-related changes such as hybrid/remote teaching responsibilities, ever-changing health and safety regulations, and concerns about their own health and the health of loved ones.

Limitations & Future Directions

While this study provides new and important information about the experiences of teachers during the pandemic, it is not without limitations. First, it examines perceptions of school readiness, not students' actual readiness. While it is important to consider the perceptions of teachers in this area, a further study examining actual school readiness data is needed. Teachers also reported a lack of shift in standards and expectations to accommodate the developing needs of students. Future studies should examine current school readiness expectations and standards to determine if this perception is accurate. Additionally, the sample may limit the generalization of the results. Participants were from varying states in the United States; further work is needed to determine if the perception of readiness differs in states that reopened earlier as opposed to those who remained online/virtual for an extended period of time. Relatedly, our recruitment method did not target all teachers, and participation was optional, so the opinions of teachers who participated could be different from those who chose not to take part or were not contacted due to the recruitment methods. Teacher demographic information could have been expanded upon by asking if they had a degree in education, what type of degree they had, and if they felt confident using technology to teach virtually.

It is also important to note that teachers who chose to answer the survey may not be generalizable to all teachers in the U.S. when it comes to the degree of education, training, and professional development. Our sample consisted mostly of educated, public school teachers with about 10 years of teaching experience, a population that has also been used in

similar studies (Hustedt et al., 2017; Smith & Glass, 2019; Wesley & Buysse, 2003). Additional research is needed on teachers with differing demographics to help determine the impact of these factors on perceptions of school readiness. Prior work by Olayinka-Bello and Brackin (2021) highlights that variations of teacher demographic profiles can increase when distinctions are made concerning lead versus associate teachers that differ from typical demographic profiles found in other studies of school readiness (Hustedt et al., 2017; Smith & Glass, 2019; Wesley & Buysse, 2003). Also, while we examined some teacher demographic data, student demographic data was not considered. Additional research is needed to examine student characteristics to help determine if some groups are experiencing a greater impact in the area of school readiness during the pandemic, as prior research has shown students from different racial, ethnic, and socioeconomic statuses, along with special education or "at-risk" specifiers have shown differences in school readiness (Smith & Glass, 2019). Finally, due to an error in our survey, an equal number of goals was not selected across each domain, preventing meaningful comparison of data in this area. Future work should focus on specific skills that children are lacking; this information can be used to guide support and interventions.

Conclusion

Overall, when examining teacher perceptions of school readiness during the pandemic, it is not surprising that teachers find children to be less prepared for school than they were prior to COVID-19. However, the majority of teachers also report that children now have enhanced self-help skills. They also feel that most children will be ready for the next grade and that they have the ability to help their students learn the skills needed for school readiness. Our data suggest that if teachers meet children where they are and focus on developing the skills that are lacking, they may perceive children as having school readiness.

Declarations

Conflict of interest The authors report there are no competing interests or funding to declare.

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