



Understanding Equitable Access to Public Montessori Pre-K: A Case Study of Montessori Recruitment and Enrollment Practices

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Introduction

Ensuring equitable access to high-quality early education for families from all racial, ethnic, and income backgrounds is a critical component for addressing systemic racism and inequality within the public education system. This study examined one piece of this issue by investigating access to public Montessori pre-K, as well as barriers that may hinder equitable access. Barriers to accessing high-quality educational opportunities often disproportionately affect Black and Latine¹ families and families experiencing poverty, and these barriers may contribute to what researchers call the “opportunity gap.” While past research has described the impacts of educational disparities as “achievement gaps,” more recent research focuses on *differential opportunities* that explain observed differences in achievement between groups.ⁱ The opportunity gap refers to how social and systemic structures that are out of the control of individual parents or children determine opportunities, and how systemic differences in opportunities linked to race, ethnicity, and family income lead to differences in outcomes.ⁱⁱ Understanding gaps in opportunities allows us to pay closer attention to the conditions and barriers students face throughout the education system, and places responsibility on the inequitable systems for not providing appropriate opportunities for all students to thrive.

What is public Montessori pre-K?

For purposes of this case study, public Montessori pre-K programs are those that self-identified as following Montessori practices, are publicly funded, and served children ages 4 or younger (either for a fee/tuition or for free). These programs included public charter and public magnet schools offering Montessori programming.

Early childhood education (ECE), which includes pre-K, may represent a particularly important opportunity gap because it is more racially and ethnically segregated than any other grade, including Kindergarten.ⁱⁱⁱ Learning more about the recruitment and enrollment practices of public Montessori pre-K programs may provide a window into how enrollment policies for public education programs using progressive pedagogies, which focus on experiential learning, critical thinking, problem solving, and both independent and collaborative learning, function overall.^{iv} Although states and communities are investing in various models of progressive pedagogies in addition to Montessori (e.g., Reggio Emilia, Waldorf), we chose to focus on Montessori because it is one of the most prominent progressive curricula used in public pre-K programs and its origins lie in promoting equitable learning opportunities through individualized teaching practices that can support children from all backgrounds.^{v,vi} In addition, while public K-12 Montessori schools have high levels of racial and socioeconomic diversity,^{vii} public pre-K Montessori programs have unique admission processes due to demand typically exceeding the supply of available pre-K slots. An examination of these admission processes is needed to understand whether these policies create barriers to access for some families.

While many public Montessori pre-K programs or the school districts in which they operate report that students are admitted through a random lottery process, initial efforts to study these programs indicated that certain lottery policies may create barriers to access. In 2017, the Brady Education Foundation Montessori Initiative Network (BEFMIN)² set out to conduct a randomized controlled trial (RCT) that compared children who were selected to attend public Montessori using a lottery system to children who applied but were placed on a waiting list. The goal of that study was to assess the efficacy of Montessori practices to diminish racial and income achievement gaps. However, BEFMIN experienced challenges around identifying a sufficient sample of racially and economically diverse students who were entered into a random lottery to receive a Montessori pre-K slot. Many programs granted so many exceptions to their lottery that almost no students were actually admitted at random; in other programs, fewer families applied than there were slots, so no lottery was necessary. Because of these challenges, we designed a policy-

¹ Latine is a gender-neutral version of Latino and Latina.

² The BEFMIN includes Child Trends, The Riley Institute at Furman University, and the University of Kansas Center for Montessori Research.

focused case study to examine the ways in which program- or district-level recruitment and enrollment policies might limit families' access to public Montessori pre-K.

Understanding barriers is particularly important for learning more about equitable access to specialized pre-K programs. During recruitment for the BEFMIN RCT, we identified several barriers to accessing public Montessori pre-K programs, including priority status for siblings, neighborhood residents, and children of staff; a lack of targeted recruitment practices for families from underserved communities; and affordability. Although the programs recruited for the RCT and this study were free for all starting in Kindergarten, many still charged tuition at the pre-K level and had limited financial aid available for families. Given the origins of the Montessori pedagogy and existing disparities within the educational system, questions of equity should be at the center of policy development for accessing public Montessori pre-K.

To begin to understand whether and how public Montessori pre-K enrollment policies might create barriers to access for underrepresented families—particularly Black and Latine families and families experiencing poverty—this study started with a *landscape scan* of all public Montessori pre-K programs. This scan allowed us to learn more about the characteristics of who these programs serve, where they are located, and their recruitment and enrollment practices. We located the public Montessori pre-K programs identified in the landscape scan in national *administrative data* sets to learn more about the communities that include these programs. Then, we fielded a *survey of public Montessori pre-K programs* identified from the landscape scan to delve deeper into the programs' policies. Finally, we conducted *interviews with families* from the communities served by the surveyed pre-K programs to learn about their perceptions of public Montessori pre-K, experiences enrolling in these programs, and experiences enrolling in other ECE options (if applicable). This data collection provided a snapshot, or case study, of the different recruitment and enrollment practices of public Montessori pre-K programs and how they affect families' access to these early education options.

Defining equitable access

This policy case study sought to better understand the extent to which public Montessori pre-K programs' recruitment and enrollment practices may promote or create barriers to access, particularly for Black and Latine families and families experiencing poverty. Understanding equitable access in this context has two levels: community and program. Access at the community level is determined by the extent to which public Montessori pre-K programs are widely distributed across communities so they are available to a variety of different families. Access at the program level is determined by the extent to which Montessori pre-K enrollment policies may promote or limit accessibility for individual families.

For the purposes of this case study, we draw on the Office for Planning, Research, and Evaluation's (OPRE) definition of access to ECE:

*Access to early care and education means that parents, with **reasonable effort and affordability**, can enroll their child in an arrangement that **supports the child's development and meets the parents' needs**.^{viii}*

This definition of access to ECE was developed as a resource for the field after the 2014 Child Care Development Block Grant (CCDBG) Act reauthorization, which resulted in an influx of funding for improving access to ECE, particularly high-quality ECE.^{ix} In the context of this case study, we expanded OPRE's definition of access to include factors that support **equitable** access to ECE—specifically, public Montessori pre-K programs. To understand equitable access, policymakers and researchers need to consider the ways in which program-level policies may limit families' access, whether these programs are located in a diverse array of communities, and how families learn about these programs and their enrollment policies. These additional dimensions of equity are important considerations for assessing access in ECE.^x

Barriers to educational opportunities disproportionately affect families experiencing poverty, as well as Black and Latine families.^{xi,xii} Examining the potential barriers created by recruitment and enrollment policies in the context of socioeconomic status was an important component of this study, as were the racial and ethnic makeup of public Montessori pre-K programs and their surrounding communities. Cost, location, and lottery priority status for certain groups of children limit families' ability to access these programs with reasonable effort and affordability, creating inequities in access to these programs. Recent research on access to ECE reveals that although access is low in many communities, it is even lower when examining affordability—particularly for high quality care.^{xiii} In addition, many families, and particularly those with low incomes, may have limited exposure to non-traditional learning approaches such as Montessori.^{xiv} As such, a lack of targeted recruitment or engagement policies further limit reasonable effort on the part of families to learn about public Montessori pre-K and how to enroll their child(ren).

To assess equitable access to public Montessori pre-K at the program level, we examined the following factors:

- Affordability
 - Costs to attend public Montessori pre-K, as well as access to financial aid
- Reasonable effort
 - The public Montessori pre-K application and enrollment process (e.g., how burdensome the application process is, documentation requirements)
 - Programs' recruitment and engagement strategies, as well as the extent to which information shared with families is written in plain language that is clear and available through multiple avenues and/or languages
 - Programs' enrollment policies, including limitations on who can apply and priority status for certain groups of students
- Supports child development and meets parents' needs
 - The program environment, including how welcoming it feels to families and how well it accommodates a range of different children's needs and learning styles
- Equity
 - The extent to which access to public Montessori pre-K, as defined above, varies depending on the family's race, ethnicity, or income.

In addition, equitable access to public Montessori pre-K also considers social and systemic factors at the community level, including:

- Reasonable effort
 - Where programs are located (e.g., distribution across states and rural and urban communities, the demographic characteristics of the communities in which programs are located)
 - The extent to which programs are serving the communities in which they are located (e.g., the degree of match between program and community characteristics)
- Equity
 - Who these programs are serving (e.g., racial/ethnic and income diversity among students)

Research questions and activities

Broadly, this study aimed to investigate the extent to which programs' recruitment practices and enrollment policies might promote or limit families' access to public Montessori pre-K. The key research questions guiding this project are as follows:³

1. What does the national landscape of public Montessori pre-K programs look like?
 - a. How many public Montessori programs serving preschool-aged children exist across the country, and what are common characteristics of those programs?
 - b. How do the demographic characteristics of the student body (e.g., race/ethnicity, family income) compare to the characteristics of the community in which the program is located? In other words, to what extent do the characteristics of the student body "match" the characteristics of the larger community?
2. What are public Montessori pre-K programs' recruitment practices and enrollment policies?
 - a. What information do programs provide to families in the surrounding community to market these programs? Do programs share information in multiple languages?
 - b. How are children selected for enrollment? To what extent do programs typically follow their own stated selection processes? Are the selection processes equitable?
 - c. To what extent are children admitted via lottery processes? To what extent are the lotteries truly random? To what extent is the lottery process equitable?
 - d. To what extent are programs' efforts to recruit families equitable?
3. What are families' perceptions of public Montessori pre-k programming and other early education options?
 - a. How do perceptions differ among families with children who attend public Montessori pre-K and families with children in another type of school or child care (i.e., non-Montessori)?
 - b. What are families' perceived barriers to accessing public Montessori pre-K (e.g., lack of information about and/or interest in Montessori programs, perceptions of who these programs are meant to serve, etc.)?
 - c. How do families learn about these programs? What information do programs provide to families in the surrounding community to market these programs? Are marketing efforts perceived to be culturally aligned?
 - d. To what extent do other publicly available schooling options play a role in parents' decisions to apply for public Montessori pre-K?

To explore these questions, our team conducted several research activities. The ultimate goal of these activities was to identify public Montessori pre-K programs across the country and compile a dataset that could be analyzed to further understand the policies and characteristics of these programs, then used to sample a subset of programs and families for additional surveys and interviews. These case study activities included:

- **A Landscape Scan** to understand the characteristics of the public Montessori pre-K programs that exist nationwide.
- **Administrative Data Analysis**, to explore the extent to which the demographic characteristics of public Montessori programs' student bodies "match" the characteristics of their surrounding communities.

³ This case study also originally sought to learn about contributions to whether public Montessori pre-K is over- vs. under-subscribed (i.e., whether they receive more applications than slots available, or vice versa). However, our final sample was too small to conduct comparisons, and almost all schools in the sample were over-subscribed.

- **A Survey of School Administrators**, to understand public Montessori pre-K programs' recruitment and enrollment practices, as well as the extent to which they are adjusting their practices to address the national focus on racial equity and the COVID-19 pandemic.
- **Interviews with Families**, including those with children enrolled in both Montessori and other types of ECE to explore their process for choosing an ECE program, as well as their perceptions of and experiences with public Montessori pre-K.

It is important to note that our data collection efforts were significantly hindered by the COVID-19 pandemic, so they are neither comprehensive nor nationally representative (see Limitations section). Rather, these data were collected to provide an exploratory snapshot of the landscape of public Montessori pre-K programs, how they recruit and enroll students, and how families experience them.

Methodology

Landscape scan of public Montessori pre-K programs

The first objective of this case study was to understand the landscape of public Montessori pre-K programs serving children ages 4 or younger across the country. The full landscape dataset was developed using primary data that our team collected from public Montessori programs and school districts, and administrative data from three national datasets: The Civil Rights Data Collection,^{xv} the American Community Survey,^{xvi} and the Common Core of Data.^{xvii}

Data collection

To begin, we developed a comprehensive dataset including basic information about public Montessori pre-K programs and their surrounding communities. To identify programs for inclusion in this dataset, we started with a 2016 list of Montessori schools from the National Center for Montessori in the Public Sector (NCMPS) Census.^{xviii} Because BEFMIN had previously used this list to recruit schools for the original BEFMIN RCT study, we also leveraged program information that BEFMIN had collected through that effort where possible. To ensure this dataset included as many public Montessori pre-K programs as possible, our team also cross-referenced the NCMPS list with 2018 data collected by the Trust for Learning as part of the Ideal Learning Landscape Study, which compiled data about public Montessori pre-K programs.^{xix} This initial dataset included a total of 698 schools.

To collect information about each of the 698 programs and determine whether they met the study criteria for a public Montessori pre-K program, we attempted to contact all schools from our list via phone and email. During this outreach, we asked school staff for brief information about their program, including the following:

- The type of school (e.g., public, private, charter, or magnet).
- Whether all classrooms at the school followed the Montessori model.
- Ages of children served.
- Tuition or fee structures for each age level (if applicable).
- Their process for admitting new students (e.g., through a lottery, on a first-come first-served basis).
- Any residency requirements for families (e.g., need to live in an attendance zone to enroll).
- Whether they have a waiting list in a typical year.

- Contact information for an administrator (e.g., Director, Head of School, Principal) who could complete a survey with more detailed questions about the public Montessori pre-K program's enrollment and recruitment practices (described later in this report).

If our team could not reach someone at the school or district office to answer these questions after five attempts, we researched the school online using school websites and other sources to collect as much information as possible.⁴

Our team collected data from the landscape scan from December 2019 to May 2020. To accommodate the COVID-19 pandemic and the additional challenges it created for schools, we stopped contacting schools via phone and email outreach in mid-March 2020, and instead collected data via online research. In some cases, schools had very limited information available on their websites. In particular, few schools' websites include detailed information about their enrollment policies (e.g., the process used to admit new students), whether the school typically had a waiting list, and any eligibility requirements (e.g., residency requirements) for prospective families. The data quality implications of this practice are discussed further in the Limitations section of this report.

From December 2019 to May 2020, our team reviewed a total of 698 schools as part of the landscape scan. Of those, 288 (41%) were deemed eligible for inclusion in the final dataset because they were public Montessori programs serving children ages 4 or younger. The remaining 410 schools were removed from the dataset because they were no longer using a Montessori curriculum (n = 130), were closed (n = 117), did not serve children ages 4 or younger (n = 113), were private (n = 42), could not be reached or researched online (n = 6), or declined to answer questions about their school (n = 2). Of the 288 schools in the final dataset, we collected all information about 125 (43%) through online research only, resulting in significant missing information for those schools.⁵

Administrative data analysis

To complete the landscape scan, we merged our dataset of 288 public Montessori pre-K programs with publicly available administrative data from the following sources:

- The 2015-16 *Civil Rights Data Collection (CRDC)*.^{xx} Data are collected every two years by the US Department of Education's Office for Civil Rights and contain information regarding the demographic characteristics (e.g., race/ethnicity) of student bodies in all public local educational agencies (LEAs) and schools in the United States.⁶
- 5-Year Data (2011-2015) from the *American Community Survey (ACS)*.^{xxi} ACS data are collected via surveys of random subsets of all US households on an ongoing basis (monthly) and then aggregated to develop more accurate population-level data, including community demographic characteristics (e.g., race/ethnicity, income), that can be broken down by geographic region (e.g., Census tract).
- The 2015-16 *U.S. Department of Education's Common Core of Data (CCD) school and agency universe*.^{xxii} Data are collected annually and contain school-level enrollment information and demographic characteristics (e.g., eligibility for free or reduced price lunch) for all public schools and LEAs in the US.

⁴ For example, when the information about a school could not be found on their website, we reviewed other sources such as the Montessori Census (montessoricensus.org).

⁵ Even for those schools we were able to contact via phone or email outreach, we were not necessarily able to collect complete information for each school. However, the amount of missing information for schools that were researched online only was substantially higher. Throughout this report, we present our findings as percentages of the total number of schools with valid (i.e., non-missing) information for each question.

⁶ The full universe of all public LEAs and schools also includes long-term juvenile justice facilities, charter and alternative schools, and schools serving students with disabilities.

We reviewed the CRDC, ACS, and CCD to identify useful variables that would describe the characteristics of the 288 public Montessori schools and their student bodies (e.g., race/ethnicity and poverty level), as well as the extent to which those characteristics matched those of their surrounding communities. For the purposes of these analyses, “community” is defined as the Census tract in which each school was located.

Survey of public Montessori pre-K administrators

Survey development

The research team distributed a survey to administrators in schools with public Montessori pre-K programs using contacts identified during the landscape scan to gather information about their programs’ recruitment and enrollment policies. The survey was administered online and included questions about five topic areas:

1. General school information (ages served, characteristics of enrolled students, basic information about Montessori practices and affiliations).
2. Enrollment policies (admission process, any priority or preference for certain groups of students, whether the school was over- or under-subscribed).
3. Recruitment practices (family engagement, any targeted outreach).
4. Any current or anticipated changes to school practices to accommodate the COVID-19 pandemic or the national focus on racial equity.
5. Montessori practices (age grouping, use of work time; see Appendix B).⁷

Because programs’ recruitment and enrollment processes may have been different during the 2020-21 school year due to the COVID-19 pandemic, survey questions pertaining to the first four topic areas referred to the 2019-20 school year. The research team piloted the survey with four school administrators in summer 2020, and their feedback was incorporated to ensure the survey used clear and appropriate language and instructions.

Recruitment and data collection

Administrators at public Montessori pre-K programs were recruited using key contacts identified during the landscape scan. Most often, they were a school administrator such as a Principal, Head of School, or Pre-K/Montessori Coordinator. For schools that were researched online only, we attempted to identify a contact from the school’s website. Of the 288 schools in our dataset, we were able to identify contact information (e.g., a name and email address) for 232 schools.⁸

The research team fielded the school administrator survey from September to mid-November 2020. To accommodate pandemic conditions and the additional pressure they put on school administrators, we offered flexible options for completing the survey in early or late fall, depending on each administrator’s preference and availability. We emailed each administrator a total of four reminders to complete the survey. Additionally, members of our team tried to call 50 schools to remind administrators to complete the survey. Pressures related to the pandemic made administrators especially hard to reach. Because we were only able to speak with an administrator at one of the 50 schools we called, we stopped phone reminders in mid-October. Despite our flexibility and repeated attempts to contact each administrator, only 37 public Montessori administrators completed the survey (16% response rate).⁹ This low response rate is probably due to conducting the survey during the same period that schools were attempting to re-open or adjust to online schooling. The 37 administrators who responded to the survey represented a total of 37 public

⁷ This information was collected to provide additional context about these programs. Results can be found in Appendix B.

⁸ The survey was not distributed to schools where we could not identify contact information for someone to complete the survey.

⁹ Thirty-seven schools out of the 237 for which we were able to identify contact information.

Montessori pre-K programs in 19 states and the District of Columbia. As a thank you for their time, school administrators were offered a \$35 Amazon gift card.

Interviews with families

Recruitment

We also asked each public Montessori administrator who completed the survey to assist with recruiting families to take part in interviews about: 1) their perceptions of Montessori programming; 2) their perceived barriers to accessing public Montessori pre-K; 3) the ways they learned about these public Montessori options; and 4) the extent to which other publicly available schooling options played a role in their decision to apply for public Montessori pre-K. Administrators who agreed to help with this recruitment distributed a link to an online form where families could express their interest in being interviewed and share basic information about their family. As a thank you for their help recruiting families, each school administrator was given an additional \$35 Amazon gift card.

We wanted to hear the perspectives of families with a child in a public Montessori pre-K and those with a child in another type of ECE who also lived in a community where public Montessori pre-K was an option. Therefore, we also asked child care programs located in the same communities as the survey sample to assist with recruitment. These child care centers were identified using Child Care Resource and Referral (CCR&R) sites and were contacted via phone and/or email. We asked families recruited from these other ECE programs (non-Montessori) similar questions to those we asked of Montessori families. However, interviews with non-Montessori families had a stronger focus on why they chose their enrolled program rather than a public Montessori pre-K and whether there were any barriers that prevented enrollment.

To bolster recruitment efforts of families with a child enrolled in another type of ECE program, the study team transitioned to snowball sampling after receiving a low response from community ECE programs. At the conclusion of each interview, we asked the participating family if they knew of any other families that met our criteria and would potentially be interested in participating in the survey. We were able to recruit 13 families from snowball sampling. All families were given a \$50 Amazon gift card as a thank you for participating in the interview. Our goal was to schedule interviews with families of children ages 4 to 5 who would have initiated enrollment in the year(s) prior to the COVID19 who represent a diverse sample with regard to participation in Montessori and non-Montessori programs, as well as race and ethnicity. When limited family availability resulted in difficulties recruiting our intended sample, all interested families were allowed to participate, resulting in a less diverse sample than planned.

Sample

The study team conducted phone interviews with parents in December 2020 and January 2021. Interviews were conducted with 13 families representing both Montessori (n = 9) and non-Montessori programs (n = 4). Participating families lived in various geographic regions, including rural and urban communities, in Alaska, California, Colorado, and Indiana. Across these four states, families had preschool-aged children attending seven programs; three attended private programs (all non-Montessori) and seven paid an attendance fee (n = 3 Montessori, 4 non-Montessori). The study team conducted one interview in Spanish.

Of the families interviewed, the majority of children were White (n = 5), and four children identified as Hispanic or Latine. Six families indicated that they speak a language other than English in their home, the most common being Spanish. The majority of families interviewed (n = 8) earned \$50,000 or more per year.

Table 1. Family characteristics

Family Characteristics	Montessori* (n = 7)	Non-Montessori (n = 4)
What is your preschool child's race?		
White	2	3
African American	1	0
Korean	0	1
Multiracial	4	0
Is your preschool child of Hispanic, Latine, or Spanish origin?		
Yes	4	0
No	3	4
Does your family speak a language other than English at home?		
Yes	5	1
No	2	3
What range of income does your household fall within?		
Less than \$25,000	1	0
\$25,000 - 34,999	0	0
\$35,000 - \$49,999	1	0
\$50,000 - \$74,999	2	0
\$75,000 - \$99,999	1	1
\$100,000 or more	2	2

Source: Family Interviews, Child Trends (2020)

Note: Two Montessori families did not provide any of these family characteristics.

Note: Two or more race/ethnicities were coded as Multiracial.

Qualitative analysis

Interviews were recorded with consent. A notetaker documented responses during the interview and used the audio recording to complete notes. The transcripts were qualitatively coded to identify themes across transcripts according to each research question. A lead interviewer drafted a set of codes derived from the study's research questions and interview protocol. Two independent analysts used the predetermined set of codes and restructured the coding scheme based on subsequent text analyses. They achieved consensus on over 80 percent of the codes and discussed discrepancies to achieve consensus on the final coding structure. After agreeing on the final coding structure, the two coders completed one round of reliability coding, where each analyst independently coded the same transcript and achieved consensus on over 90 percent of the codes. A third coder performed a review on a sample of the transcripts for quality assurance. Where applicable, we analyzed themes by school type (e.g., Montessori and non-Montessori).

Findings

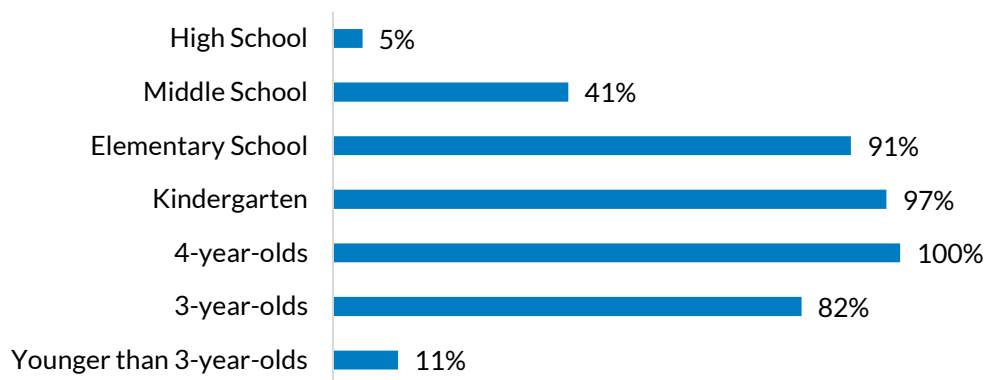
National landscape of public Montessori pre-K

The purpose of this landscape scan was to provide a high-level understanding of public Montessori pre-K program characteristics and practices across the country, as well as to illuminate key topics for further exploration through the school administrator survey. The findings presented in this section are exploratory. Because the COVID-19 pandemic hindered our ability to collect information about each program through direct contacts (e.g., phone or email outreach), and instead forced us to rely on online research for many programs, adequate information for some questions is missing.

Characteristics of public Montessori pre-K programs: School type and ages served

About one third of public Montessori pre-K programs in the landscape dataset were in public charter schools (32%), and another quarter were in public magnet schools (25%). While these programs were located in schools that served a range of ages, all served preschool-aged children (ages 4 or younger), most served elementary-aged children (i.e., 1st through 5th grade; 91%), and very few served high schoolers (5%; see Figure 1).

Figure 1. Ages of children served by public Montessori schools (n=288)



Source: Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Tuition and financial aid

While all Montessori pre-K programs in the landscape dataset were in public schools, only about one third were free for everyone to attend (32%). Even though all states offer free public school for all children from Kindergarten (at least half day) through 12th grade,^{xxiii} publicly-funded preschool is not equally funded across all states. As of 2019, 44 states offered state-funded pre-K for some children, but enrollment rates vary widely by state. Among 4-year-olds, for example, states' enrollment rates for state-funded pre-K range from 2 percent to 87 percent.^{xxiv}

In the landscape dataset for this case study, only about a third of programs were free for all students, particularly at the preschool-age level. For example, among programs serving 3-year-old children, just over one quarter were free to attend for all children in that age group (28%). Trends were similar for programs serving 4-year-old children; just under one third were free to attend for all children in that age group (32%). Although very few programs in our dataset served children younger than three (n = 33; 11%), free programming was even less common for this age group, with only two schools that were free for all under age 3 (Table 2).

Table 2. Tuition by age level, all schools (n=288)

	Kindergarten		4-year-olds		3-year-olds		Under 3 years	
	n	%	n	%	n	%	n	%
Free for All in Age Group	218	78%	92	32%	66	28%	2	6%
Not Free for All	14	5%	146	51%	137	58%	22	67%
Subsidies or Aid Offered	8	3%	72	25%	64	27%	7	21%
All Pay Tuition	3	1%	63	22%	60	25%	14	42%
Unknown	48	17%	49	17%	34	14%	9	27%

	Kindergarten		4-year-olds		3-year-olds		Under 3 years	
	n	%	n	%	n	%	n	%
Total	280	100%	287	100%	237	100%	33	100%

Source: Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Note: Because all schools in this dataset were public, we presume that the small number of schools who reported not being free for all children at the Kindergarten level (5%) offered only half-day Kindergarten for free. However, we did not collect this level of detail via the landscape scan.

Enrollment policies

Admission processes

Public Montessori pre-K programs' enrollment processes have important implications for equity and access, as these policies determine which families are able to attend the program and create barriers to entry for other families. Among the 288 programs in the landscape dataset, just over half used some version of a lottery system to enroll new students (53%). However, recruitment for the BEFMIN RCT showed that schools define "lottery" in many different ways. For example, some schools that claim to admit students through a random lottery offer priority or even automatic admission to certain groups of students (e.g., siblings of currently enrolled students, children of school staff), meaning the lottery is not truly random for all applicants. For these reasons, we asked more detailed questions about the nature of public Montessori pre-K programs' lottery systems, including whether any groups are given priority or preferential admission, as part of the school administrator survey.

In addition to lotteries, other common methods for enrolling new students were first-come, first-served admission (23%) or neighborhood schools where all children living in the area can attend (3%). Some programs used another process such as asking families to rank their top three choices for schools/programs in a district. Others did not have information about their enrollment process online and did not respond to our phone or email outreach (12%; see Table 3).

Many programs also had policies about the residency of prospective families. Just over one third required families to live in a certain geographic region to apply (e.g., school district, attendance zone; 34%). Others did not require this, but preferred families to live in a certain region and considered it as a factor when making enrollment decisions (19%).

Number of applications and available slots (subscription status)

As part of our landscape scan, we also tried to understand how the number of families applying for slots compared to the number of slots available. We categorized programs where the number of applicants typically exceeds the number of available slots in a given year as *over-subscribed*. Many over-subscribed programs place children who were not selected for enrollment on a waitlist, meaning they have a chance of being offered enrollment at a later time in the event that a slot becomes available. We labeled programs that do not fill all available slots in a typical year as *under-subscribed*. Our landscape scan research showed that most public Montessori pre-K programs were over-subscribed in a typical year (64%), suggesting that the demand for public Montessori slots exceeded the supply of slots currently available. However, it is worth nothing that we were not able to obtain this information for about one third of programs (29%).

Table 3. Enrollment processes and policies, all schools

Enrollment policy	n	%
Admission process		
Neighborhood School	9	3%
First-Come, First-Served	65	23%

Enrollment policy	n	%
Lottery	154	53%
Other	26	9%
Unknown	34	12%
Geographic residence requirements		
No	68	24%
Yes	97	34%
Not Required, but is a preference	56	19%
Unknown	67	23%
Subscription status/waitlists		
Typically No Waitlist (appropriately or under-subscribed)	19	7%
Yes, Typically Waitlist (over-subscribed)	165	57%
Typically Waitlist, but Small (slightly over-subscribed)	20	7%
Unknown	84	29%
Total	288	100%

Source: Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Use of Montessori methods

All the programs in the dataset reported using a Montessori curriculum in some classrooms, and most reported that Montessori was the only curriculum used across all classrooms at the school (65%). Just over 20 percent reported that some of their classrooms used a curriculum other than Montessori (22%). In the literature, these schools are sometimes referred to as a “school within a school,” meaning that a portion of the school operates on a separate curriculum, often with separate, designated staff and some degree of autonomy from the rest of the school.^{xxv} For a small number of programs, we could not determine whether the school exclusively used a Montessori curriculum (13%).

Match between school and community demographic characteristics

Using our list of 288 public Montessori programs serving children ages 4 or younger combined with data from the CRDC, ACS, and CCD, our team analyzed the demographic characteristics of the schools in which Montessori programs were located relative to the characteristics of their surrounding communities. To understand the demographic characteristics of the communities (i.e., Census tracts) in which public Montessori schools were located, we analyzed data from the ACS. We analyzed school-level data about the demographic characteristics of student bodies from the CRDC and CCD. Schools are not required to submit data about the preschool-aged students they serve to the CCD or CRDC. Because many schools do not submit pre-K- specific data, our team analyzed the demographic characteristics of each school’s entire student body (i.e., across all ages served). For the purposes of this analysis, we assumed that the demographic characteristics of those enrolled in Montessori pre-K programs were similar to the rest of the student body. As such, we continue to use the term “public Montessori pre-K programs” throughout this report.

A small number of the 288 public Montessori pre-K programs in our dataset could not be merged with all of these administrative data sources.¹⁰ Therefore, the total number of programs versus communities included in each part of this analysis vary slightly.

¹⁰ We attempted to link administrative data to the 288 public Montessori pre-K programs in our dataset using school name, address, and zip code. A member of our research team manually reviewed any schools that could not be linked through this method and attempted to find updated information (e.g., change of address) online. Only a small number of programs (<35) could not be matched with school- and community-level administrative data (varies by data source).

Data sources and analytic approach

Race/Ethnicity. To understand the racial/ethnic characteristics of the public Montessori pre-K programs and their surrounding communities,¹¹ our team first determined the racial/ethnic make-up of each program and community. We next defined each program and community according to its majority racial/ethnic group (50% or more). Using this 50 percent or more cutoff facilitated analyses by allowing us to categorize each program and community into one of four groups:

1. Majority Black
2. Majority Hispanic or Latine
3. Majority White
4. Diverse (meaning no single group made up 50% or more of the population)

Our descriptions of these racial and ethnic categories are derived from the administrative datasets and then modified slightly for clarity and consistency. For example, the ACS uses the terms “Black or African American” and “Hispanic or Latino,” whereas the CRDC uses the terms “Black” and “Hispanic.” Further, it is important to note that racial and ethnic identities are not mutually exclusive. For example, people can identify as both Black (a racial identity) and Hispanic (an ethnic identity).^{xxvi} However, because the CRDC does not allow respondents to identify as ethnically Hispanic in addition to another race, our team treats Hispanic or Latine as a separate category.¹² With these caveats in mind, we refer to the majority racial/ethnic groups in both programs and communities according to the four categories outlined above.

Although using a 50 percent or more cutoff to define the majority population is somewhat arbitrary, our team chose to use this definition and these four specific categories for several reasons. First, in line with nationwide population statistics,^{xxvii} the most commonly reported racial/ethnic identities among the programs and communities in our dataset were White, Black, and Hispanic or Latine. While there are many other racial/ethnic groups that may face barriers accessing public Montessori pre-K in the US, we felt it prudent to focus on these particular groups, especially considering our limited sample sizes in the school administrator survey and family interviews. Another benefit of this method is it allowed us to categorize both programs and communities using the same categories. Because of this, we could also easily compare the two to determine if the majority racial/ethnic population in a given program “matched” the majority racial ethnic population in its surrounding community.

Importantly, others in the field have developed more precise metrics to quantify the extent to which the racial/ethnic characteristics of schools’ match those of their surrounding communities. Researchers at the Brookings Institution, for example, developed an index to “score” schools according to the degree of racial imbalance between their student bodies and the population of the surrounding community.^{xxviii} While these metrics are certainly useful, they also have several limitations. First, because there is no universally agreed-upon threshold at which racial imbalance becomes problematic, researchers tend to rely on other comparison points (e.g., state-level distributions), which are often somewhat arbitrary and highly varied based on regional context. Second, these metrics lack some nuance in that they are not sensitive to community context. For example, researchers at the Brookings Institution note that a school with a 90 percent White student body in a 60 percent White community would receive the same racial imbalance score as a school with a 40 percent White student body in a 10 percent White community.

Considering these limitations, as well as the exploratory nature of this study, our team chose to more simply describe the extent to which the characteristics of students public Montessori pre-K programs “match”

¹¹Although the focus of this project was on public Montessori pre-K programs serving children ages 4 younger, our analyses of school-level demographic data were based on the characteristics of the schools’ entire student bodies, across all ages served. Although there are preschool-level demographic data available through the CRDC, they are optional, meaning there was a high percentage of missing data.

¹²In the CRDC, students with one or more racial/ethnic identities (including Hispanic) are counted as having “two or more races.” To ensure alignment between our program- and community-level analyses, we used the equivalent categories from the ACS (e.g., African American or Black, not Hispanic or Latino).

those of the surrounding community by using a 50 percent cutoff to define the majority racial/ethnic group in each population. We acknowledge that this approach cannot capture the full nuance of program and community characteristics, particularly for the small number of public Montessori pre-K programs and communities where a single racial/ethnic group made up just under or over 50 percent of the population. However, we hope that these preliminary findings may still offer a useful snapshot of the landscape of public Montessori pre-K programs, as well as illuminate future directions for research on equity and access.

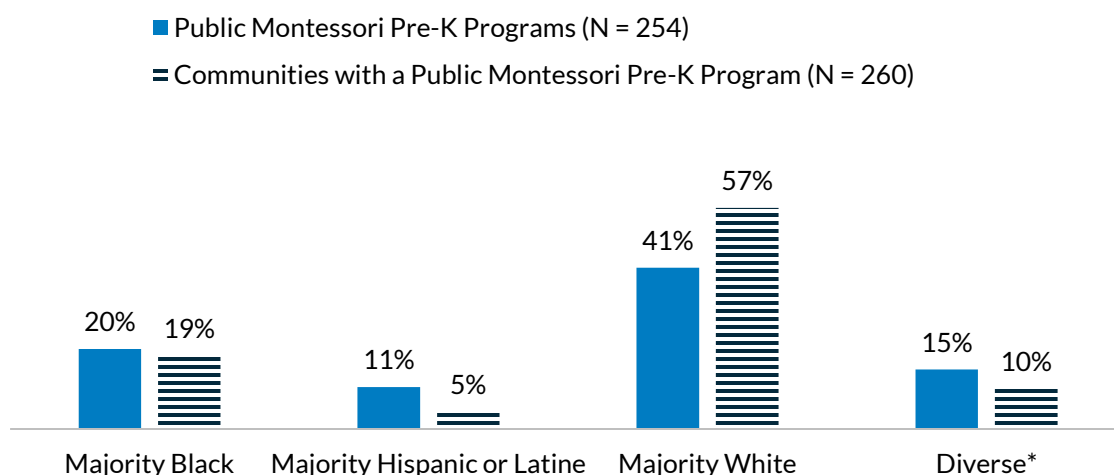
Poverty Level. To understand the level of poverty in each community, we calculated the percentage of the total population with incomes at or below 185 percent of the federal poverty level for their household size.^{xxix} Using the same definition of majority (50% or more), we then categorized each community as: 1) majority at or below 185 percent of the poverty level, or 2) majority above 185 percent of the poverty level. We are not aware of any data source that collects detailed information about families' income at the program level. As such, our analyses of program-level poverty relied on data regarding the percentage of students in each public Montessori pre-K program who were eligible for free or reduced price lunch (FRPL) as a proxy for poverty rates at the program level. Historically, students were eligible for FRPL if their families' incomes were at or below 185 percent of the federal poverty level. Given this alignment with federal poverty guidelines, education researchers have frequently used FRPL as a proxy for school poverty rates.^{xxx} However, some researchers caution that policy changes to expand FRPL eligibility criteria over the last decade may threaten the accuracy of FRPL eligibility as a proxy for poverty.¹³ In 2012, for example, researchers at the National Center for Education Statistics found that just over 50 percent of public school children were eligible for FRPL, while the actual poverty rate of public school students was less than 25 percent.^{xxxi} Considering these limitations, findings regarding program-level poverty should be interpreted with caution.

Racial/ethnic characteristics of public Montessori pre-K programs and communities

Our analysis of the racial/ethnic characteristics of public Montessori pre-K programs showed that most had majority White (41%) or Black (23%) student bodies. Likewise, our community-level analysis showed that more than half of programs were located in majority White communities (57%). Figure 2 shows a detailed comparison of the majority racial/ethnic group in our dataset of public Montessori pre-K programs and their surrounding communities.

¹³ For example, FRPL eligibility criteria have been expanded to include certain groups of children, such as those in foster care or those participating in/receiving other services (e.g., Head Start, Migrant Education, Runaway and Homeless Youth services, etc.). Additionally, under the Community Eligibility Provision (federally adopted in 2014) schools in high-poverty communities can offer FRPL to all students regardless of eligibility.

Figure 2. Comparison between the majority racial/ethnic groups in public Montessori pre-K programs and their surrounding communities



Source: Landscape Scan of Public Montessori Pre-K Dataset (2020)
 Note: *For the purpose of this study, “diverse programs” means no single racial/ethnic group made up more than 50 percent of the population.

To further understand the extent to which the racial/ethnic characteristics of public Montessori pre-K programs aligned with those of their surrounding communities, we also developed categories to capture the degree of “match” between their respective racial/ethnic majority groups. Crossing the four program-level racial/ethnic categories (i.e., majority Black, Hispanic/Latine, White, or diverse) with the same categories within communities resulted in 16 categories of program-community racial/ethnic match. Of the 16 possible categories, the vast majority of programs fell into one of four groups: programs in majority White communities with either a majority White student body (45%) or a diverse student body (9%), programs in majority Black communities with a majority Black student body (17%), and programs in diverse communities with a diverse student body (6%). A complete summary of the 16 categories of program-community racial/ethnic match appears in Appendix A.

To further investigate these data, we then collapsed the 16 match categories into five simplified categories that more broadly describe the extent to which the racial/ethnic characteristics of programs match those of their surrounding communities (see Table 4). Most commonly, the racial/ethnic characteristics of public Montessori pre-K programs matched those of their surrounding communities (73%). However, considering the finding that most programs have majority White student bodies and are also located in majority White communities, these findings also highlight that the match between program and community characteristics is just one component of equity. *Who* has access to public Montessori pre-K programs seems to be largely dictated by *where* these programs are located. Another notable subset of programs is those that have diverse student bodies despite being in a community with a single racial/ethnic majority group (12%). Understanding how these programs recruit and enroll students may provide important insights on ways to increase access to public Montessori pre-K for students from various racial/ethnic backgrounds. We explore these questions further in a later section of this report.

Table 4. Match between program and community racial/ethnic majority group, all programs

	n	%
Diverse program in community with single majority group	30	12%
Majority White program in community with another majority (including diverse)	4	2%
Majority non-White program in majority White community	20	8%

	n	%
Program majority matches community majority	184	73%
Other program-community mismatch*	15	6%
Total	253	100%

Source: Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Note: *Other categories of program-community mismatch included majority Hispanic/Latine or Black programs in diverse communities (n = 11), majority Hispanic/Latine programs in majority Black communities (n = 3), and majority Black programs in majority Hispanic/Latine communities (n = 1).

Poverty level

As part of the landscape scan, our team also explored the proportion of families with incomes at or below 185 percent of the federal poverty level for household size. At the program level, nearly two thirds of public Montessori pre-K programs had a majority of the student body (50% or more) with family incomes at or below 185 percent of the federal poverty level (61%). However, it is worth noting that all of these programs were right at the threshold of 50 percent or more, meaning the maximum percentage of families falling at or below the federal poverty level in any given program was 50 percent. Conversely, just one quarter of communities had a majority of the population falling at or below the poverty line (25%). In line with recent research on the use of FRPL eligibility as a proxy for school-level poverty,^{xxxii} we suspect that our program-level estimates of poverty are somewhat inflated due to the FRPL's program's recently expanded eligibility criteria.

Survey of school administrators

Representativeness

The trends described in the previous section regarding the national landscape of public Montessori pre-K programs are largely mirrored in our sample of 37 school administrators who completed the online survey about their school's Montessori pre-K program.¹⁴ For example, among administrators that responded, most of their programs:

- Used a Montessori curriculum exclusively across the school (73%, compared to 65% in the landscape scan).
- Served elementary-school-age children in addition to some children ages 4 or younger (89%, compared to 91% in the landscape scan).
- Used some version of a lottery to admit students (81% for 3-year-old admission, compared to 63% in the landscape scan).¹⁵
- Had a waiting list in a typical year (69% for 3-year-old slots, compared to 64% in the population).¹⁶
- Had either majority White (40%) or diverse student bodies (29%) (compared to 41% and 15% in the landscape scan, respectively).
- Were located in majority White communities (67%, compared to 57% in the landscape scan).

One notable difference between the survey sample and the broader population reviewed in the landscape scan was regarding tuition. Compared to the one third of programs in the scan that were free for all children (32%), nearly two thirds of the surveyed administrators reported their programs were free for all children (62%).

¹⁴ A total of 37 administrators completed some or all of the survey, but not every administrator answered every question. Throughout this section, we report all percentages out of the total number who answered each question.

¹⁵ Note that we did not collect this information by age group as part of the landscape scan.

¹⁶ Note that we did not collect this information by age group as part of the landscape scan.

Sample of school administrators

All 37 individuals who completed the survey had an administrative role at their schools, including Head of School, Principal, Pre-K Coordinator, or Montessori Coordinator. These 37 administrators represented a total of 37 schools with public Montessori pre-K programs spanning 19 states and the District of Columbia. Throughout this report, we refer to these individuals as *school administrators*, rather than *public Montessori pre-K program administrators*, because some had positions that extended beyond the Montessori pre-K program.

The response rate for the school administrator survey was low, likely due to the additional pressures that the COVID-19 pandemic placed on school staff (see the Limitations section of this report). Given the limited sample size, we cannot draw any firm conclusions from our analyses of findings from the survey. Although we present some findings throughout this section broken down by the racial/ethnic majority group in each program, these findings are meant to provide an exploratory snapshot of how public Montessori pre-K programs are working for children and families. Although these findings may not be representative of the full landscape of public Montessori pre-K programs, we hope that these preliminary data may offer a glimpse into the factors that facilitate or inhibit equitable access and also inform future directions for research on public Montessori pre-K.

Overview of programs that responded to the survey

Ages served and schedule

In line with our eligibility criteria, all surveyed programs served children at least ages 4 or younger. Additionally, all programs served Kindergarteners (i.e., 5-year-olds; 100%), and most also served 3-year-olds (82%). At the 4-year-old level, most offered full-day programming (91%), and some offered half-day programming (33%).¹⁷

Use of Montessori curriculum

In line with our findings from the landscape scan, most administrators reported that they exclusively used a Montessori curriculum across all classrooms at their program (73%). Just over a quarter reported that only some of their classrooms followed the Montessori model (i.e., “school within a school;” 27%). Throughout the survey, we asked administrators to answer questions about their schools’ Montessori program only, even if some classrooms at the school used another type of curriculum.

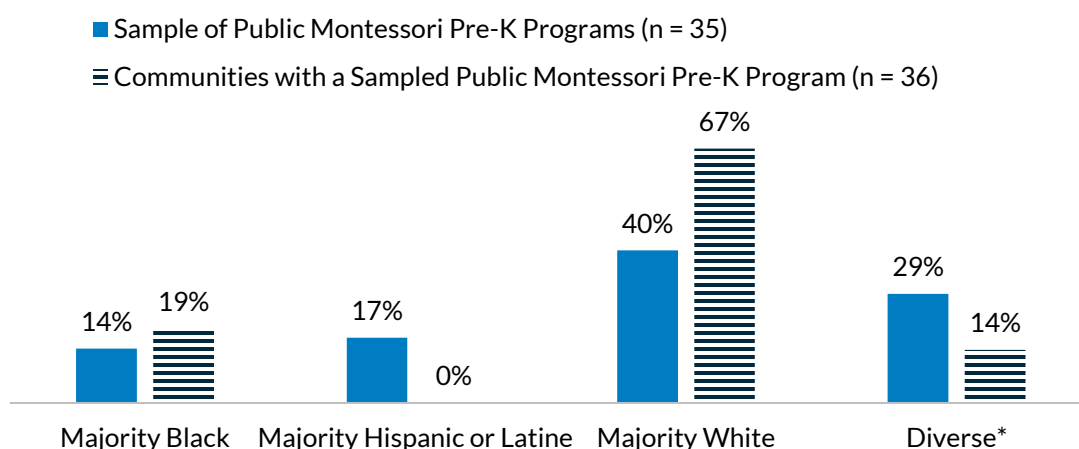
Although it was beyond the scope of this study to determine the extent to which programs were following the Montessori model with fidelity, we asked administrators a few basic questions about their programs’ use of Montessori practices, as well as any affiliations with Montessori organizations. This information provides additional context about these programs and can be found in Appendix B.

Racial/ethnic characteristics of children served and surrounding communities

To understand the extent to which the programs that responded to the survey were representative of the broader landscape of public Montessori pre-K programs, our team used the landscape scan dataset to analyze the majority racial/ethnic group of the public Montessori pre-K programs who completed the survey, as well as that of their surrounding communities. In line with the broader landscape of programs, most programs who responded to the survey had a majority White student body (67%) and/or were located in a majority White community (40%; see Figure 3).

¹⁷ Some schools reported serving both half- and full-day programming. As such, percentages do not total to 100.

Figure 3. Comparison between the majority racial/ethnic groups in surveyed public Montessori pre-K programs and their surrounding communities



Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)
 Note: *Defined as no single racial/ethnic group making up more than 50 percent of the population.

Instruction in a language other than English

Survey administrators also reported the number of students at their program who spoke a language other than English, either at home or all of the time. Nearly all programs served at least one student who spoke a language other than English (92%). On average, programs served 56 students who spoke a language other than English.

To understand more about the services programs provided to students who spoke a language other than English, we also asked administrators whether any of their lead teachers spoke the home languages of all children enrolled in the program. Few programs had lead teachers on staff who spoke the home languages of all enrolled children (15%). Just under half had at least one teacher who spoke a language other than English but not all the home languages of the enrolled children (44%); in about a third, all lead teachers spoke only English (35%). Importantly, responses varied based on the majority racial/ethnic group present in the program’s student body. Among majority White programs, for example, nearly half reported that their lead teachers spoke only English (46%). Among majority Hispanic/Latine and majority diverse programs, most reported that at least one lead teacher spoke each of the home languages of all enrolled children (50% and 63%, respectively).

Table 5. Lead teachers who speak the home language(s) of all enrolled children, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
At least one lead teacher spoke a language other than English, but not the home languages of all children	15	44%	3	60%	3	50%	5	38%	2	25%

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
At least one lead teacher spoke each of the home languages of all enrolled children	5	15%	1	20%	3	50%	1	8%	5	63%
Lead teachers spoke only English	12	35%	1	20%	0	0%	6	46%	0	0%
All enrolled children spoke English only	2	6%	0	0%	0	0%	1	8%	1	13%
Total	34	100%	5	100%	6	100%	13	100%	8	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Transportation services and meals

The services that programs provide to their students, such as free transportation or meals, can also have important implications for equity and access. Some working families, for example, may not be able to drive their children to school or afford private transportation, and therefore might not consider a program that does not provide free transportation. To understand the extent to which public Montessori pre-K programs were providing these services, we asked administrators about the transportation and meal options they provided to their students.

In general, programs were fairly evenly split in terms of the options they provided to students. Some offered no transportation options (38%), some provided transportation to certain students but not others (27%), and others provided transportation for all students (35%; see Table 6). Among the programs who said they provided transportation options to certain students but not others, programs most commonly reported providing options to students with disabilities (90%) and families with low incomes (70%).

Importantly, the transportation options provided to students varied based on the majority racial/ethnic group of the program. For example, a higher percentage majority White programs provided no transportation options to any students (64%, compared to 38% in the entire sample). Additionally, most majority Black and diverse programs provided transportation to all students (60% and 50%, respectively).

Table 6. Transportation options offered to students, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
No	14	38%	0	0%	2	33%	9	64%	2	20%
Yes, for all students	13	35%	3	60%	2	33%	2	14%	5	50%
Yes, but only for some students	10	27%	2	40%	2	33%	3	21%	3	30%
Total	37	100%	5	100%	6	100%	14	100%	10	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Among the programs that offered transportation options to either some or all students, the vast majority said that these services were available to students free of charge (96%). Programs claimed that they did not charge students for transportation services, but a small number said that these services were only available

and free for certain groups (4%), such as students with disabilities, those from families with low incomes, and those who lived in a certain geographic region.

Because some families and entire school districts rely on city public transit systems in lieu of school-funded options, we also asked administrators whether there were easily accessible public transportation options available for families to get to school in their community. Just over half said that public transportation was easily accessible (59%). Notably, this also varied based on the majority racial/ethnic characteristics of the program. Among majority Hispanic/Latine and majority Black programs, nearly all reported that these options were easily accessible to families (100% and 80%, respectively; see Table 7).

Table 7. Easily accessible public transportation options for families to get to school, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
Yes	22	59%	4	80%	6	100%	5	36%	5	50%
No	11	30%	1	20%	0	0%	7	50%	3	30%
Not sure	4	11%	0	0%	0	0%	2	14%	2	20%
Total	37	100%	5	100%	6	100%	14	100%	10	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Finally, we asked school administrators to report about any meals that their programs served to students. Nearly all programs served meals (92%), and the small number of programs that did not were all majority White. Among the programs that served meals, all reported offering free or reduced-price lunch (FRPL; 100%). Just over half offered FRPL to all students, regardless of eligibility (59%), and the remaining programs offered it to some students only (41%).

Recruitment strategies

Accessibility of information about enrollment processes

One important way that programs engage with and recruit prospective families is through sharing publicly available, online enrollment information. Almost all administrators said their programs made information about their admission processes (e.g., eligibility criteria, documentation requirements, groups such as siblings that receive preferences for admission) publicly available for prospective families (94%).

Among those programs, the most common avenues for publicizing this information were program websites (97%), word of mouth (97%), PTA/PTO meetings (80%), and flyers (52% on paper; 58% sent via email). In general, about a third of programs reported publicizing information in Spanish in addition to English, regardless of avenue. Some programs reported translating these materials into additional languages, such as Cantonese and Somali.

Engagement and outreach

Most programs reported having a recruitment or outreach plan that they used to recruit and engage with prospective families (83%). Around half of administrators said their programs had such a plan at the program or school level (53%), while some said that their district had such a plan and engaged in outreach on their behalf (31%). A few administrators said they did not have any such plan (17%). These data varied somewhat based on the majority racial/ethnic group of the programs' student body; a higher percentage of majority White had a recruitment or outreach plan that was implemented at the program/school level (62%, relative to 53% overall).

We also asked administrators how frequently their programs engaged in outreach to recruit prospective families (i.e., those with children not currently enrolled) during the 2019-20 school year. As shown in Table 8, some programs engaged in this outreach only in the weeks immediately preceding the lottery or enrollment period (36%). Others engaged in more frequent outreach, ranging from about two to four times per year (22%) to once per month (11%). Majority Black programs did not engage in this kind of outreach in the weeks immediately preceding their programs' enrollment period; instead, most said they conducted outreach about two to four times per year (80%).

Table 8. Frequency of outreach to recruit prospective families, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
During the weeks immediately preceding the lottery or enrollment period	13	36%	0	0%	2	33%	6	46%	4	40%
About two to four times per year	8	22%	4	80%	2	33%	1	8%	1	10%
About once per month	4	11%	0	0%	1	17%	1	8%	1	10%
I don't know	6	17%	0	0%	1	17%	3	23%	2	20%
Other	5	14%	1	20%	0	0%	2	15%	2	20%
Total	36	100%	5	100%	6	100%	13	100%	10	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

As part of the survey, we also asked administrators if their programs engaged in any kind of *targeted* recruitment or outreach during the 2019-20 program year, meaning outreach that was specifically aimed at encouraging certain groups of children and families to apply. A few programs engaged in this type of outreach (17%), though there was some slight variation based on the racial/ethnic majority of the program. Namely, majority White programs were slightly more likely to engage in targeted outreach (23%), whereas majority Black and diverse programs were less likely to engage in targeted outreach (0% and 10%, respectively). It may be that majority White programs are slightly more likely to engage in targeted outreach because they are actively trying to increase the diversity of their schools. Among the six programs that noted which groups of families they tried to engage through targeted outreach (3 of which were majority White), programs most commonly mentioned efforts to engage Hispanic/Latine students or Spanish speakers. A few programs mentioned efforts to recruit other groups, such as Native American families, Somali families, and families with low incomes.

Enrollment policies

The ways programs select or admit new students out of the pool of those who applied has important implications for equity and access, as these policies can either support or create barriers for new families to access these programs. To understand how public Montessori pre-K programs enroll new students and potential barriers to access, we included questions in the school administrator survey about tuition and financial aid at the pre-K level, requirements for families to be eligible to apply, and the process for admitting new students.

Tuition and financial aid

Although all the programs in the sample were public, some still charged some tuition at the pre-K level. In our survey sample, around one third of programs charged some families tuition to attend (38%)—most often

at the 3- or 4-year-old level.¹⁸ Notably, majority White programs were the most likely to charge some families tuition (64%; see Table 9).

Table 9. Programs that charged any families tuition to attend, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
Some families pay tuition	14	38%	0	0%	2	33%	9	64%	3	30%
No families pay tuition	23	62%	5	100%	4	67%	5	36%	7	70%
Total	37	100%	5	100%	6	100%	14	100%	10	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

Most programs who said they charged some families tuition to attend also said that they offer some sort of financial aid to children in some or all age groups (93%). The specific types of financial aid offered at these programs included scholarships (46%), sliding scale fees (38%), subsidies (8%), and Child Care Development Fund (CCDF) subsidies (8%). While these financial aid options may help some underrepresented families gain access to public Montessori pre-K, it is important to note that most of these options cover only a portion of tuition. As such, tuition at the pre-K level may still present a significant barrier to access for some families, particularly those with lower incomes.

Enrollment practices and procedures

Residency requirements

Some programs had geographic residency requirements for families to be eligible to apply and enroll their children. Many programs required prospective families to live within a specific region, such as the school district (35%) or an attendance zone (22%). Other programs had either no geographic residency requirements (38%) or much looser requirements, such as only requiring that families live in the state (5%). Notably, lenient or no residency requirements were most common in majority White or diverse programs, with more than half of programs reporting that they either had no requirements or only required families to live within state lines. Conversely, all majority Black programs had some residency requirements for prospective families, requiring that families live within the school district (60%) or another type of attendance zone (40%). Although we did not ask administrators to explain the rationale behind their programs' residency requirements, it may be that some majority White programs have more lenient requirements to encourage families from other communities to apply. Likewise, given that most majority Black programs are located in majority Black or diverse communities, it may be that these programs have stricter requirements to ensure that sufficient slots are available for families who live in the surrounding community.

Applications

Most programs require that prospective families submit an application to enroll children at the youngest age level offered (96%). For older age groups (i.e., children ages 4 to 5), some programs required families to submit an application each year, even if the child was previously enrolled (14-18%, by age group), and a very small number required no application for enrollment (3-9%, by age group).

¹⁸ A small number of programs charged tuition for half-day Kindergarten.

Subscription status

Among the public Montessori pre-K programs where an administrator responded to the survey, the demand for pre-K slots generally exceeded the supply of available slots. Table 10 shows the average number of applications received, offers made, and students enrolled for the youngest age group served at each program. Across all programs, the average number of applicants (110.4) was much higher than the number enrolled (33.4). To estimate the approximate number of students on each program's waiting list, we calculated the difference between the number of applicants and the number enrolled. The average program had around 80 students on their waiting list for enrollment in the 2019-20 program year.¹⁹ Notably, the average wait list size was much higher in majority Hispanic/Latine and diverse programs (means of 157.8 and 125.5, respectively), relative to the average in majority White and Black programs (means of 22.5 and 31.8, respectively).

Table 10. Average number of applications, offers, and enrollments for youngest age group served in school year 19-20, by race and ethnicity

	Total Sample (n = 29)	Majority Black Programs (n = 4)	Majority Hispanic or Latine Programs (n = 5)	Majority White Programs (n = 11)	Diverse Programs (n = 9)
	mean	mean	mean	mean	mean
Applicants	110.4	72	194.4	39.9	165.3
Offered slots	36.5	44	38.6	22.3	49.4
Enrolled	33.4	40.3	36.6	21.3	43.3
On Waiting List (Applicants - Enrolled)	79.4	31.8	157.8	22.5	125.5

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

In line with these averages, most programs reported having more applicants than slots during the 2019-20 school year (76%). However, this varied somewhat based on the majority racial/ethnic group of the program. Majority White programs were the least likely to report having a waiting list (64%), and diverse programs were the most likely (89%).

When asked how often their programs had more applicants than slots for their youngest age group served, most reported that this happens every school year (72%). Some administrators said their programs had a waiting list in most but not every school year (15%), and a few said this happened very rarely (10%). Notably, no administrators said their programs had never had a waiting list.

Taken together, these findings suggest that the demand for public Montessori pre-K is greater than the supply. This is not surprising given that publicly funded pre-K options are scarce in most states. This finding also highlights the need for concerted efforts to expand the number of public Montessori pre-K slots available to families. Additionally, considering that majority Hispanic/Latine and diverse programs generally had larger waitlists for the 2019-20 school year, efforts to promote diversity and equitable access to public Montessori might include ways to expand the number of slots available in these communities in particular.

Admission processes

As part of the administrator survey, we also asked administrators about the process their programs used to admit students for the youngest age group served in the event that the number of applicants exceeded the number of available slots (see Table 11). Most administrators reported using some version of a lottery system to admit students in these cases (79%). The most common type reported was a weighted lottery where some students (e.g., siblings of currently enrolled students) are given a preference (34%), followed by

¹⁹ Note that this is an estimation. Not all programs maintain waiting lists during the school year.

truly random lotteries where every child has an equal chance of being accepted (24%). Additionally, some programs admitted certain groups of students automatically (e.g., siblings, those in certain geographic regions) and then used a random lottery to fill any remaining slots (21%). Some programs did not use a lottery, and instead admitted students on a first-come first-served basis (21%).

To understand the extent to which programs actually adhered to their stated admission process, we also asked administrators follow-up questions about whether any groups of students were ever given priority or preference (including automatic admission) within these processes. Overall, nearly all programs used a process where certain students were given priority, preference, or automatic admission (83%), regardless of their reported lottery type. Even among programs that reported using a random lottery where every child had an equal chance of being accepted, most said there were instances where certain groups of students were given priority (71%). Programs most commonly gave priority or automatic admission to siblings of already enrolled students and children of school staff. A small number gave priority or automatic admission to other groups of students, such as those residing in a certain geographic region, those from families with low incomes, or those with disabilities.

Table 11. Admission process for youngest age group served

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
Admission Process										
Some version of a lottery	23	79%	3	75%	5	100%	7	64%	8	89%
First-come first-served basis	6	21%	1	25%	0	0%	4	36%	1	11%
Use of Preferences for Certain Groups										
Admission process gives preference to certain groups of children*	24	83%	2	50%	5	100%	9	82%	8	89%
Total	29	100%	4	100%	5	100%	11	100%	9	100%

Source: Survey of Public Montessori School Administrators & Landscape Scan of Public Montessori Pre-K Dataset, Child Trends (2020)

* Note: Includes programs that gave any sort of preference to certain groups of children—including priority, weighted, or automatic admission—regardless of admission process (i.e., some of these programs used a lottery, and others used first-come first-served admission). Administrators most commonly reported giving preference to siblings of currently enrolled students and children of school staff, but a few gave preference to children from certain geographic regions, those from low-income families, or those with disabilities.

Importantly, these findings suggest that many programs did not necessarily follow their stated enrollment policies. Particularly with respect to admission, many programs gave priority or admission preference to certain groups of students, even if their stated process suggests that all applicants have an equal chance of being selected for enrollment. It is also worth noting that programs most commonly gave priority or admission preference to children who had an existing connection to the school (e.g., children of school staff or siblings or currently enrolled students). Given that most public Montessori pre-K programs serve majority White student bodies in majority White communities, these priorities may create additional barriers for families of color to access public Montessori pre-K.

Documentation requirements

Among programs that reported giving priority or preferential admission to some students as part of their enrollment process, we also asked administrators if the program required families to submit any documentation proving they were eligible to receive that priority status. Nearly two thirds said they require some documentation from families to prove eligibility (65%). The most types of documentation required were proof of residency and income verification. Importantly, these requirements may create some barriers

for families, particularly those with low-incomes, those who recently moved, or those experiencing a crisis situation (e.g., domestic violence).

Family perceptions of accessing early education

Hearing families' voices about their experiences identifying and choosing an ECE option for their child(ren) is critical to understanding issues of access and barriers to public Montessori pre-k programs. Parent and family voices, which are often left out of empirical research and findings,^{xxxiii} are critical to understanding systemic problems. We spoke with 13 parents affiliated with Montessori (n = 11) and non-Montessori (n = 2) programs in communities with public Montessori pre-K (see Table 1 for more details regarding families' demographic characteristics). During interviews, we asked families about their awareness of Montessori programs, the reasons they did or did not consider Montessori pre-K compared to other available ECE options, and their experiences with the application process. Grounded in our definition of equitable access for families, we wanted to understand how families make decisions related to pre-K programs. It is important to note that, although we chose Montessori programs as the focus of this study, we are particularly interested in families' motivations to access any ECE for their children, and whether this process is equitable. Because of this, the following results focus on families' experiences as a whole, only comparing the two groups when most relevant for the findings.

Awareness of Montessori

Due to a number of factors such as individual experience, program visibility, and program outreach, parents may or may not be aware of public Montessori pre-K programs as an educational approach and/or as an available ECE option within their community. Because awareness precedes access, it was imperative to understand what parents knew about public Montessori pre-K programs generally and as an ECE program option. We asked families what they have heard or know about public Montessori pre-K, even if their child does not currently attend one.

All families had a general understanding of Montessori and perceived Montessori pre-K programs as substantively different from other traditional early learning programs (n = 13). Most families referenced Montessori programs as having a larger focus on encouraging child interests (n = 8), promoting independence (n = 6), and being hands-on and interactive (n = 3). A few parents also touched on peer support as central to Montessori programming (e.g., mixed-age groups in the classroom; n = 2), as well as a focus on life skills and developing the whole child (n = 2).

"I've heard there's more independent exploration and hands-on stuff, skills like pouring from a container, more daily life skills, than rote memorization..."

- Non-Montessori parent

"It's just more child-centric. They don't try to have all the children kind of conform to the same kind of academic standards. They kind of go at the child's own pace. And so, if they're really interested in something, they can kind of go ahead."

- Montessori parent

Parents reported that acquaintances and their own research were the most common means of learning about ECE programs (n = 5 and 4, respectively). Some parents mentioned online communities (e.g., Facebook boards and groups) as a useful source for learning about various community ECE options, including Montessori pre-K programs (n = 2). As expected, parents who themselves attended Montessori programs reported their own experience as

central to looking for Montessori options for their own child(ren) (n = 2). Similarly, parents whose older child attended Montessori programs expressed wanting their younger child to also attend, in part to be with their sibling and in part for the Montessori approach (n = 3).

Despite the fact that Montessori pre-K programs reported engaging in community and targeted outreach in our survey, only one parent that we spoke with mentioned learning about their Montessori pre-K from the

program itself. This suggests that programs may not be reaching parents as intended, which may limit how much the broader community of parents learn about public Montessori pre-K as an ECE approach or option.

Considerations around application and enrollment

Family perceptions of Montessori pre-K

Notably, only one out of the four non-Montessori families interviewed considered a Montessori program as an ECE option, despite all four being aware of Montessori programming. To understand parents' motivations for eventually pursuing or *not* pursuing a Montessori program, we asked families about their key deciding factors.

For families that did not consider a Montessori program, location of the program or perceived lack of scheduling flexibility were primary deterrents. Families that did consider a Montessori program shared a variety of reasons for their considerations. About half considered Montessori because of the program's school environment, students, or staff (n = 5), or the program's educational value to the child (n = 5). Other common reasons included factors related to reasonable effort (e.g., location and price, n = 3); the extent to which the program supported their child's development (e.g., fit or the match between the program and child, n = 3); whether it met parents' needs or aligned with their cultural values (e.g., diversity of students; n = 3); and how welcoming the program was to families (e.g., experiences during a visit or an interview process; n = 3). One parent shared that they enrolled their child in a Montessori program, not because of the Montessori approach, but rather because of the larger appeal of and desire for a dual-language classroom setting. Another reason that emerged for several parents was how programs engaged them and viewed parents as partners in their child's education.

Regardless of whether their child attended a Montessori program, no themes emerged when speaking with parents about what they liked or disliked about Montessori pre-K. Perceptions of Montessori pre-K were generally positive and were spread across perceived characteristics of the Montessori approach (e.g., child interest, independence, etc.). However, two notable comments were raised. A Black Montessori parent noted that the Montessori approach may not be a good fit for children with a tendency to procrastinate or not be fully engaged given the perceived relaxed structure of the Montessori classroom setting. A White non-Montessori parent perceived Montessori as having a reputation as being less diverse and being for "privileged" families. These perceptions are consistent with themes in existing research highlighting concerns that some Black parents have about the fit and structure of Montessori compared to traditional programs.^{xxxiv} In this study, we heard this perception from a Black parent who is currently affiliated with a Montessori program but they also acknowledged these as concerns for other students. Additionally, prior research has demonstrated the perception that Montessori programs cater to and are designed for White or higher-income families,^{xxxv} where in this study, we heard this perspective from a White parent who was not affiliated with a Montessori program. The perceptions shared by these two parents speak to the need for Montessori programs to more effectively share information about the Montessori approach and engage a broad and diverse population of families.

"Hard to get into - child almost has to start in lower grades. [It] seems that certain types of families are in Montessori - privileged families or children who have had behavior issues and are recommended to take Montessori. [I] don't think of Montessori as being diverse - there is more exposure to diversity in a traditional setting."

- Non-Montessori parent

As programs consider targeted recruitment efforts, these findings suggest that highlighting physical resources within the program (e.g., outdoor playground, garden), encouraging discussions between parents and program staff, and explicitly conveying the benefits of the Montessori approach for children with a range of educational needs may help to engage parents and inform their ECE decision-making process. Additionally, distributing information and actively engaging parents about transportation and payment options, if any, would better inform parents about the feasibility of attending. Finally, programs might

consider being mindful of some of the negative perceptions of Montessori, directly acknowledging those potential concerns and speaking to how their program seeks to address them, which may demonstrate a more welcoming versus exclusionary environment.

Enrollment decisions

We also asked families about factors they considered in deciding to apply for or enroll in a particular ECE program or multiple programs, and their experience navigating these processes.

Many of the factors that parents considered around pursuing Montessori pre-K were similar to what they considered when ultimately enrolling in ECE programs more broadly. When asked about why they applied to or enrolled in their chosen ECE program, parents reported that the school environment (e.g., physical environment, students, or staff; n = 13); alignment of educational values (n = 9); and reasonable effort to attend (e.g., location, affordability; n = 6) as key factors. More nuanced themes around program diversity emerged (n = 4), such as the presence of multicultural and multilingual classrooms. For example, one parent shared that their child's program is run by a tribal organization and incorporates tribal culture in the classroom. Interestingly, only one parent mentioned "fit" as a reason for enrollment decisions; however, this may suggest that at the point of application, parents have already determined whether the program was or was not a good match for their child.

Once a family decides where they would like their child(ren) to enroll in ECE, they will typically have to engage in an application process. When asked about navigating the application process, parents reported that the chance of their child receiving a slot at the program as a key factor in their decision (n = 7). No families mentioned barriers to applying, but several noted that there was not much direct outreach from the program regarding application and enrollment processes. Families instead relied on Facebook postings and word of mouth among members of their community to learn about these processes.

As all ECE programs consider their application and enrollment policies, it may be useful to have more outreach and support throughout the application process, in particular. Parents we spoke with navigated the process on their own or with support from acquaintances or others in the community. However, districts or programs may want to proactively support parents, especially in the case that parents are new to ECE program application processes. Providing support may help to expand the diversity of the applicant pool and will serve as an opportunity to answer parent questions and address concerns before parents begin application efforts. Notably, one parent shared that a reason they chose to not attend the ECE program in their school district was the slower pace of learning and instruction due to having more students from lower-income or English as an Additional Language (EAL) backgrounds. As such, districts and programs should consider highlighting diversity as a benefit and opportunity for students and families to connect; this may convey the value of all community members and foster a more welcoming and inclusive school environment.

"After seeing how the school was run...I chose it for [child] because I liked the feeling of the classroom and how tight-knit the group was and the level of respect for the teachers and the students and the caring environment..."

– Montessori parent

"It's a challenging process, even as a teacher, it's challenging. It's clear as mud. I think it's the lack of timelines, and advertising, I don't know exactly. A lot of things I had to search for on Facebook, which I wouldn't think I'd have to do."

– Non-Montessori parent

Spotlight: Impacts of the pandemic on programs & families

The COVID-19 pandemic had a significant impact on both programs and families. To acknowledge the challenges these groups have faced during the pandemic, as well as any effects that may persist once the pandemic is over, we included questions about the pandemic in both the school administrator survey and family interviews.

Format of instruction

When we conducted the school administrator survey in fall 2020, all but one program said they were open and planning to offer some combination of in-person and/or distance learning (i.e., remote/virtual learning) during the fall semester. Among those programs that were open, most were offering either distanced learning (38%) or hybrid learning (i.e., a combination of in-person and distanced learning; 38%). Few programs were offering only in-person instruction (15%), and some were offering in-person instruction on a rotating schedule where small groups attend in-person for 2-3 days per week (9%).

At the time of the interviews, eight families reported that their children were engaging in remote learning exclusively. Parents also reported challenges about their decision to send children to programs for in-person instruction or remote learning. Many were stressed by weighing the risks of their child contracting COVID or spreading COVID to family members, especially those at high risk (n = 6).

When asked if they anticipated changing programs in the future due to COVID, parents reported that it would depend on the options available to them with regard to virtual learning and in-person instruction, and their comfort with the safety of their children and family (n = 10).

Virtual learning supports

In the survey, most programs offering distance or hybrid learning options said they offered a variety of supports for families and children to facilitate virtual learning. Most commonly, programs provided devices such as laptops or tablets (100%), activity packs or at-home learning materials (90%), Wi-Fi or hotspot data (86%), resources about at-home learning strategies (86%), and mental health supports (86%). Although programs may provide families with virtual learning supports, one family reported in the interview concerns around their child not experiencing the typical Montessori experience virtually.

Most programs also said they were offering virtual learning supports to their teachers. Most commonly, these included devices such as laptops or tablets (100%), training in virtual platforms and IT support (95% each), and mental health supports (86%). Relatively fewer programs offered their teachers Wi-Fi or hotspot data (52%) or resources on implementing a Montessori curriculum virtually (67%).

Changes to enrollment

We also asked administrators how their program's enrollment process during the 2020-21 school year compared to the previous year, including both the number of slots available and the number of slots filled. The vast majority of programs reported that the number of slots *available* was approximately the same as the previous year (94%). However, nearly 60 percent said that the number of slots *filled* was down as a result of the pandemic (59%). Notably, responses differed somewhat based on the majority racial/ethnic

"Usually my after-school care for my older [child] is my parent, and they are at-risk seniors and so sending my children to public school then having them take those germs home to my grandparents until I get off work is very concerning. So, in a way I have appreciated virtually learning even though it hasn't benefited the kids but kept my parents safe. It's very hard to decide. But I appreciate public school being cautious."

– Non-Montessori parent

characteristics of the student body. Namely, all majority Black programs reported that enrollment numbers were down as a result of the pandemic (100%).

When asked to consider the ways in which the pandemic might have led to a *decrease* in enrollment relative to previous years, many programs mentioned families' reluctance to send their children to school during the pandemic (75%), as well as the fact that many parents are unemployed or furloughed and therefore do not need pre-K (30%). In the family interviews, one parent shared that although their Montessori program offers in-person and virtual services, they have chosen to keep their child home, but continue to pay tuition to keep the child's slot for Kindergarten in the following year.

Limitations

Impact of the COVID-19 pandemic on data collection

High rates of missing data in the landscape scan

In spring 2020, many schools were forced to rapidly transition to distanced or hybrid learning, and others had to temporarily close due to the COVID-19 pandemic. Our landscape scan took place from December 2019 to May 2020. Beginning in mid-March 2020, we stopped contacting schools via phone and email because it was a very stressful time for school staff and we did not want to burden them. Instead, we conducted the remainder of our scan using online research only. Because many schools have limited information about enrollment processes on their websites, schools that we researched after March 2020 had more missing data than those we reached by telephone or email. Further, because our team had no way to confirm when schools' websites were last updated, some of the data we collected may have been out of date. Considering this, analyses of the landscape scan should only be interpreted as preliminary, exploratory findings regarding the public Montessori pre-K programs across the country.

Low response rate for the survey of school administrators

The pressure that the pandemic put on school staff also affected our recruitment for the survey of public Montessori school administrators. We fielded the survey from September to mid-November 2020, at which point many school administrators were finalizing or implementing plans for the fall semester, navigating new safety protocols, and triaging supports for both teachers and students. These additional pressures on school staff may have contributed to our lower than expected response rate to the survey.

Challenges recruiting non-Montessori families for interviews

The pandemic also affected our ability to recruit other ECE programs in communities with public Montessori pre-K to subsequently recruit families for interviews. During our outreach to ECE programs in communities with public Montessori pre-K, many ECE program staff noted that they were overwhelmed because of the pandemic and therefore did not have the capacity to assist with a study. In total, only four ECE programs agreed to help us recruit non-Montessori families. Given this low success rate, we started implementing snowball sampling partway through our recruitment efforts to bolster our sample of non-Montessori families. Although we were able to interview additional non-Montessori families through these methods, our final sample of families includes only four non-Montessori families.

Data limitations

Lack of comprehensive data about public Montessori pre-K programs

Our aim in developing the landscape dataset was to describe the key characteristics of the public Montessori pre-K programs nationwide. Through this research, we found a total of 288 public Montessori programs that served children ages 4 or younger. However, it is important to note that others in the field estimate that the number of public Montessori pre-K programs is higher.^{xxxvi} To identify programs for our landscape dataset, our team relied on existing data sources, such as Montessori Census data from the National Center for Montessori in the Public Sector (NCMPS)^{xxxvii} and the Trust for Learning's Ideal Learning Landscape Study. However, in our contacts with schools and online research for the landscape scan, we found that many programs in these lists were no longer using a Montessori curriculum, were closed, or were operating as private pre-K programs. While we were not able to systematically investigate these changes, our findings suggest that the landscape of public Montessori is constantly changing, indicating a need for a regular review of the public Montessori program landscape.

Another limitation of existing data on public Montessori is the lack of detailed information about the ages of the children these programs serve. While some data sources such as the NCMPS Montessori Census document some information about ages served, these data are currently only available as ranges (e.g., whether the program serves children ages 3 to 6). Data on age ranges makes analyzing the landscape of public Montessori pre-K difficult, as it is not possible to distinguish programs that offer Kindergarten only from programs that offer pre-K (ages 4 and under).

Exploratory definition of “match” between public Montessori pre-K programs and their surrounding communities

As detailed in the findings section of this report, another limitation of this study is our method for describing the racial/ethnic characteristics of public Montessori pre-K programs and their surrounding communities. For the purposes of our analyses, we categorized each program and community according to the majority racial/ethnic group (50% or more) represented in its population. Although this definition is somewhat arbitrary, it allowed us to categorize both programs and communities according to their majority racial/ethnic group and then easily compare whether a given program “matched” its surrounding community. However, this approach cannot capture the full nuance of program and community characteristics, particularly for the small number of public Montessori pre-K programs and communities where a single racial/ethnic group comprised just under or over 50 percent of the population.

Our team faced similar challenges in defining programs and communities according to whether the majority of the population (50% or more) was at or below 185 percent of the federal poverty level for their household size. As with our analysis of racial/ethnic groups, this method does not capture much nuanced information, especially for programs or communities that were near the threshold where 50 percent or more of the population was at or below 185 percent of the federal poverty level. Additionally, in our analysis of school-level data, we had to rely on FRPL eligibility as a proxy for family income, which may inflate our estimates for school-level poverty.^{xxxviii}

Importantly, this analysis was meant to serve as a preliminary exploration of the public Montessori pre-K programs nationwide, the children they serve, and the communities in which they are located. Although findings from the landscape scan should not be interpreted conclusively, we hope that our analysis and findings may still shed light on important trends regarding who has access to public Montessori pre-K and highlight future directions for research on this topic.

Implications

This policy case study provided some insights into how recruitment and enrollment policies may limit families' access to public Montessori pre-K programs. However, further exploration is needed to fully understand the extent of these practices across programs and how they impact a family's decisions and ability to apply for and enroll in these ECE options. Below, we detail implications of this preliminary examination, along with considerations for future research.

Most programs do not use a truly random lottery process to admit students, and instead give preferences to certain groups within their lottery systems, which may prevent some families from gaining access.

Nearly all public Montessori pre-K programs reported that some students were given priority or preference in the admission process. Even among programs that reported using a "random lottery where every child has an equal chance of being accepted," most also reported instances where certain groups of students were given priority. These preferences were similar to what we encountered during recruitment for the BEFMIN RCT; it was only after probing about different types of preferences or priority groups that we were able to learn just how limited random selection really is among public Montessori pre-K. Families considering various pre-K options are not likely to probe deeply into the nuances of a lottery process and may not realize how few slots are truly available to them. Additionally, giving preference to siblings, children of staff, and children in the neighborhood is likely to maintain the status quo rather than increase the diversity of the populations served.

Most public Montessori programs are located in majority White communities, systematically limiting access for Black, Indigenous, and Latine families.

This study's definition of equitable access included community-level factors, such as locations of public Montessori pre-K programs. The fact that the majority of these programs were located in predominantly White communities likely creates a barrier for Black and Latine families. Furthermore, considering that most programs serve children with characteristics similar to their surrounding neighborhoods, this distribution of public Montessori pre-K programs in predominantly White communities compounds access barriers for families of color.

Majority White programs were more likely to charge some families tuition to attend, which may create a barrier to entry for families.

Affordable access to high-quality ECE is already low across many communities. Black and Latine families disproportionately experience poverty,^{xxix} which may make accessing programs that charge tuition or that do not offer tuition assistance impossible. Nationwide, publicly funded pre-K options are scarce, particularly for 3-year-old children.^{xl} Public Montessori pre-K options are even more limited, and some estimates suggest that more than 80 percent of all Montessori programs are private. Historically, many Montessori pre-K programs have struggled to receive state pre-K funding due to restrictions around class sizes, teacher-child ratios, and other teacher training requirements.^{xli} Further research on how tuition for Montessori pre-K programs, and particularly majority White programs, impacts application and enrollment will be important for fully understanding how cost affects access.

Majority White and diverse²⁰ programs were more likely to have no geographic residency requirements for prospective families, potentially making these programs more accessible for families outside of the surrounding community.

Programs with no geographic residency requirements may be eliminating some barriers to access by recruiting and enrolling a more diverse student body. Alternatively, they could potentially create more barriers by allowing more White families from outside the area to enroll or enter their lottery, reducing slots and resources for other families.^{xlii} Depending on preferences in these lottery processes, some families may still experience more limited access than others even in programs that are open to all students. Furthermore, the transportation options provided to students varied based on the majority racial/ethnic group of the pre-K program. A higher percentage of majority White programs provided no transportation options to any students (64%, compared to 38% in the entire sample), suggesting further barriers for families who do not have access to reliable transportation and live far from the school.

In addition, a high proportion of public Montessori pre-K programs operate through charter or magnet schools (57%). Some research suggests that the presence of these schools can lead to community gentrification over time, as higher-income families move to the area and subsequently drive up housing costs.^{xliii} Considering this, geographic residency requirements might *initially* serve to increase diversity, but then later disproportionately preference White children as the process of gentrification occurs. While programs' recruitment practices may mitigate some of these unintended consequences, more research is needed to understand how factors such as neighborhood composition, enrollment processes, and transportation services may promote or limit equity in different community contexts.

Families navigate the Montessori pre-K program search and enrollment process without much support from the programs or school districts.

More family outreach and support are needed throughout the search, application, and enrollment processes for public Montessori pre-K programs. Families who took part in our interviews reported navigating these processes on their own or with support from friends or others in their community, not from the pre-K programs. Furthermore, providing support in languages other than English, along with engaging in active recruitment and outreach efforts may help to ensure diversity of the applicant pool. Having an inclusive school environment and a diverse student body were key factors in families' ECE decisions, for both public Montessori pre-K and other early education options.

While all public Montessori pre-K programs plan to train teachers on racial equity and social justice topics, as well as cultural responsiveness, very few plan to change their enrollment policies or tuition structure. These structural changes represent the most persistent barriers to access reviewed in this study.

Given the purpose of this study and the national focus on racial equity across all systems, we asked Montessori programs that participated in the survey about any planned changes to their policies to further promote equitable access. Many programs reported that they were currently implementing (51%) or planning to implement (37%) policies designed to recruit and retain teachers/staff of color. All programs (100%) were currently or planning to: train teachers on topics related to racial equity and social justice, incorporate activities or discussions related to racial equity and social justice, and train teachers on culturally responsive communication strategies to support their interactions with families. However, fewer programs reported making structural or policy changes. Less than one quarter of public Montessori pre-K programs changed or planned to change their tuition or financial aid policies to promote racial equity (21%). These planned changes included permanently or temporarily ending tuition, reducing tuition, and adding

²⁰ For the purpose of this study, "diverse programs" means no single racial/ethnic group made up more than 50 percent of the population.

slots for students from low-income families. Very few administrators said their programs would change their enrollment policies to promote racial equity (6%). Hiring more diverse staff and providing training are important steps in addressing equity. However, given the structural barriers to equitable access identified in this study (e.g., school locations in predominantly White neighborhoods, predominately White schools charging tuition and not offering transportation), more systemic changes may be required to equitably serve students in public Montessori pre-K.

Appendices

Appendix A: Landscape of public Montessori pre-K

Table A-1. Match between program and community racial/ethnic majority group - detailed

	All Programs	
	n	%
Majority Black Program/Majority Black Community	43	17%
Majority Black Program/Majority White Community	10	4%
Majority Black Program/Majority Latine Community	1	0%
Majority Black Program/Diverse Community	5	2%
Majority White Program/Majority Black Community	1	0%
Majority White Program/Majority White Community	115	45%
Majority White Program/Majority Latine Community	0	0%
Majority White Program/Diverse Community	3	1%
Majority Latine Program/Majority Black Community	3	1%
Majority Latine Program/Majority White Community	10	4%
Majority Latine Program/Majority Latine Community	11	4%
Majority Latine Program/Diverse Community	6	2%
Diverse Program/Majority Black Community	7	3%
Diverse Program/Majority White Community	23	9%
Diverse Program/Majority Latine Community	0	0%
Diverse Program/Diverse Community	15	6%
Total	253	100%

Source: Survey of Public Montessori School Administrators, Child Trends (2020)

Appendix B: Montessori practices

Montessori practices

Although it is beyond the scope of this study to determine the extent to which programs were following the Montessori model with fidelity, we asked school administrators a few questions in the survey about their use of Montessori curricula and other practices, staff training in Montessori, and any school-level affiliations with Montessori organizations. Key findings are presented below.

Use of Montessori curricula and other practices

In line with our findings from the landscape scan, most programs reported that they exclusively used a Montessori curriculum across all classrooms (73%). Just over a quarter of programs reported that only some of their classrooms followed the Montessori model (i.e., school within a school; 27%).

One important component of the Montessori curriculum is the use of mixed-age classrooms, often with 3-year age groupings. At the pre-K level, for example, Montessori classrooms typically include children ages 3 to 6,^{xiv} and are sometimes referred to as “Children’s House” classrooms. Just under half of administrators who completed the survey said their programs used these traditional 3-year Montessori age groupings (40%). Others reported using other types of modified age groupings, including single age groupings (e.g., a classroom only for the 3rd grade) in combination with 2-year age groupings (e.g., a classroom for the 4th and 5th grade).

Based on what we learned during recruitment efforts for the original BEFMIN RCT study, some schools may use modified age groupings to accommodate state-level funding requirements particularly at the pre-K level, which is often funded differently than K-12.

Table B-1. Use of Montessori age groupings, full sample

Montessori practices	n	%
All classrooms used traditional 3-year Montessori age groupings	14	40%
Our youngest children were in 2-year Montessori age groupings, but we use 3-year age groupings starting in early elementary	1	3%
All classrooms included only 2-year Montessori age groupings	3	9%
Other	17	49%
Total	35	100%

Source: Survey of Public Montessori School Administrators, Child Trends (2020)

To further understand programs’ use of Montessori methods, we also asked administrators about how strongly their programs valued various Montessori practices (see Table B-2). In general, programs valued some Montessori practices more highly than others. For example, the practices most frequently valued as “essential” included viewing the teacher as a facilitator rather than a lecturer (74%), having a full set of Montessori materials available (63%), using a 3-hour uninterrupted work period (57%), and assessing each child’s social emotional development (54%). In line with the Montessori philosophy, few administrators said that preparation for state-mandated tests or the use of extrinsic rewards were essential (26% and 0%, respectively). Interestingly, programs were somewhat mixed in terms of how much value they placed on the use of 3-year Montessori age groupings, with nearly 20 percent reporting that they were either not important or only somewhat important (9% each).

Table B-2. Emphasis on various Montessori practices (n = 35)

	Not Important		Somewhat Important		Very Important		Essential	
	n	%	n	%	n	%	n	%
How strongly does your school generally value each of the following practices?								
A 3-hour uninterrupted work period	0	0%	4	11%	11	31%	20	57%
Mixed-age groupings spanning at least three years	3	9%	3	9%	12	34%	17	49%
Preparation for state-mandated tests	1	3%	15	43%	10	29%	9	26%
A full set of Montessori materials is available	2	6%	1	3%	10	29%	22	63%
The teacher as a facilitator rather than lecturer	0	0%	1	3%	8	23%	26	74%
Use of extrinsic rewards such as sticker charts and honor rolls	27	77%	4	11%	4	11%	0	0%
Assessment of each child's social-emotional development	0	0%	0	0%	16	46%	19	54%

Source: Survey of Public Montessori School Administrators, Child Trends (2020)

Montessori training and affiliations

In general, programs reported that most of their lead teachers at the pre-K level had a credential from the American Montessori Society (AMS), American Montessori Internationale (AMI), or the Montessori Accreditation Council for Teacher Education (MACTE). At the pre-K level, programs reported having an average of 5 lead teachers per program, and an average of around 4 teachers with one of those credentials.

School administrators were also asked to report whether certain school staff had training in the Montessori method (see Table B-3). Nearly two-thirds of programs reported that their Head of School had Montessori training (61%), and an even higher percentage of programs with diverse student bodies reported this (90%). About half of programs had an educational director or curriculum coordinator on staff (56%). Among those programs, the majority reported that this person had Montessori training (75%).

Table B-3. School staff and Montessori training, by race and ethnicity

	Total Sample		Majority Black Programs		Majority Hispanic or Latine Programs		Majority White Programs		Diverse Programs	
	n	%	n	%	n	%	n	%	n	%
Does the Principal/Head of School/Director have Montessori training?										
Yes	22	61%	2	50%	4	67%	6	43%	9	90%
Total	36	100%	4	100%	6	100%	14	100%	10	100%
Does the school have an educational director or curriculum coordinator?										
Yes	20	56%	4	80%	3	50%	6	46%	6	60%
Total	36	100%	5	100%	6	100%	13	100%	10	100%
If yes, does that educational director or curriculum coordinator have Montessori training?										
Yes	15	75%	3	75%	1	33%	4	67%	6	100%
Total	20	100%	4	100%	3	100%	6	100%	6	100%

Source: Survey of Public Montessori School Administrators, Child Trends (2020)

Note: This table shows the programs that reported having staff with these positions and/or qualifications. Most other programs reported that they did not have staff with these positions or qualifications, but a small number said they were not sure. Responses of no and not sure are not included in the table.

We also asked administrators whether their program had any relationships with Montessori organizations (see Table B-4). Nearly two-thirds reported that they did (65%). The American Montessori Society (AMS; 58%) was the Montessori organization that programs most commonly reported having a relationship with. When asked about the specific nature of that relationship, most of those programs reported that they were AMS member schools (79%), some said their Head of School was an AMS member (29%), and one said they were AMS accredited.

Another Montessori organization with which programs commonly reported having a relationship was American Montessori Internationale (AMI; 25%). Some programs also mentioned relationships with other Montessori organizations, such as the United Montessori Schools of Indiana, and the Colorado Montessori Association.

Table B-4. Program relationships with Montessori organizations

	Total Sample	
	n	%
<i>As of 2019-20, did your school have a relationship with a Montessori organization(s)?</i>		
Yes	24	65%
Total	37	100%
<i>With which Organizations does your school have a relationship with? Check all that apply.</i>		
American Montessori Society (AMS)	14	58%
American Montessori Internationale (AMI)	6	25%
International Montessori Council (IMC)	3	13%
Montessori Educational Programs International (MEPI)	3	13%
Montessori St. Nicholas/Montessori Schools Association (MSA)	0	0%
Other	8	33%
Total	24	100%

Source: Survey of Public Montessori School Administrators, Child Trends (2020)

Notes: This table shows the programs that reported having a relationship with one or more Montessori organizations. Most other programs reported that they did not have any such relationships, but a small number said they were not sure. Responses of no and not sure are not included in the table. Programs may have reported having relationships with one or more Montessori organizations, so the percentages in the table may not total to 100.

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