FAMILY, TEACHER, AND PARTNER PERSPECTIVES AND PROGRAM IMPACT

Seattle Preschool Program Evaluation

Prepared for the Seattle Department of Education and Early Learning (DEEL)

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About Education Northwest

Education Northwest was founded in 1966 as a nonprofit committed to advancing equity in education. We use evidence to help our partners address educational challenges and improve learning.

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Overview

The **Seattle Preschool Program (SPP)** serves 3- and 4-year-old children in classrooms throughout the city. The program was founded in 2015 and is offered by the Seattle Department of Education and Early Learning (DEEL). SPP partners with a broad network of preschool providers, including community-based organizations (CBOs), family child care (FCCs), and Seattle Public Schools (SPS). Tuition is based on a sliding scale, dependent on income and family size, and many families qualify for free preschool. SPP is funded through the Families, Education, Preschool, and Promise (FEPP) Levy.

Education Northwest partnered with DEEL to conduct two interrelated evaluations of SPP in 2022, 2023, and 2024. The first evaluation (see **report** and **brief**) analyzed existing data to describe trends and relationships among child, educator, and program characteristics and outcomes. The second evaluation is presented in this report, and incorporates family, teacher, and DEEL staff perspectives as well as analyses of existing data to determine the impact of SPP on children, families, educators, and the community.

Engagement with partners

Engaging with program partners, including families and teachers, is a key part of this evaluation. Education Northwest convened an evaluation advisory committee to ensure the evaluation reflects the values, priorities, and perspectives of Seattle families and community members.

From January 2022 to February 2024, Education Northwest facilitated 14 advisory committee meetings.[1] In 2022, the 15-member advisory committee included representatives of the FEPP Levy Oversight Committee, families with children enrolled in SPP, SPP teachers and preschool directors, and DEEL coaches. In 2023, the advisory committee included 12 members as four left the

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[1] DEEL and Education Northwest used a collaborative three-step process to recruit advisory committee members. First, DEEL and Education Northwest identified groups that should be represented on the committee. Next, DEEL provided Education Northwest with a list of potential committee members. Third, Education Northwest conducted outreach and final selection of the committee.

committee due to work or family obligations and one joined. During meetings and via email between meetings, the advisory committee provided feedback on evaluation design, sampling, and focus group and survey questions. Committee members also provided input on the meaning of initial evaluation findings and suggested ways to present these findings to make them more useful and relevant to preschool directors, teachers, and families.

Evaluation questions

The nine evaluation questions addressed in this report include five focused on children, one on classroom-/program-level data and outcomes, and three on system-level data and implementation. These questions were developed in collaboration with DEEL and the evaluation advisory committee in early 2022.

- What are family perceptions of how SPP impacts children and families? (Child-level.)

- To what extent does SPP benefit children of color by providing access to high-quality early learning? (System-level and implementation.)

    - How do families of color perceive the benefits of SPP?

    - How have race-based opportunity gaps among SPP children—as detected in Teaching Strategies GOLD (TSG) and Washington Kindergarten Inventory of Developing Skills (WaKIDS) assessments—changed over time?

- How do SPP families, SPP teachers, and SPS teachers characterize students' kindergarten readiness? (Child-level.)

- Are SPP classrooms and programs meeting family, teacher, and DEEL perceptions of quality? How does SPP help them improve? (Classroom-/program-level.)

- What are the components of the SPP model? How does implementation of certain components vary across programs? (System-level and implementation.)

- In 2022–23, to what extent are SPP children's spring TSG scores and growth from fall to spring related to SPP implementation practices and CLASS scores? (Child-level.)

- What is the impact of SPP participation on kindergarten readiness among SPS kindergarten students over time, as measured by the WaKIDS assessment? (Child-level.)

- What is the impact of SPP participation on grade 3 standardized assessment scores and kindergarten attendance rates among SPS students over time? (Child-level.)

- Has the design and implementation of SPP had any unintended consequences for families, educators, and Seattle's early learning system (such as the availability of infant/toddler care)? If so, what are those unintended consequences? (System-level and implementation.)

Evaluation data and methods

This evaluation relies on qualitative and quantitative data from focus groups and interviews, surveys, and administrative records.

Focus groups and interviews

Education Northwest collected qualitative data during 15 focus groups and interviews: one focus group with advisory committee members, four focus groups with SPP teachers and one with SPS kindergarten teachers, one focus group with SPP coaches, five focus groups/interviews with family members[2], and three interviews with key DEEL informants[3]. Focus group and interview sampling plans, recruitment materials, and protocols were reviewed by DEEL staff members, the advisory committee, and Education Northwest's Institutional Review Board in advance. All focus groups and interviews were facilitated virtually by two evaluation team members. Education Northwest staff members analyzed notes from each focus group and interview to identify themes and develop recommendations for each evaluation question. See appendix for details on each focus group or interview's purpose, sampling and recruitment plan, and topics.

Surveys

The evaluation uses data from two DEEL surveys (of teachers and family members, respectively) and one Education Northwest survey of SPP preschool directors (CBO directors only) to answer the evaluation questions and to learn more about their perspectives on SPP. See appendix for more details about each survey.

Quantitative methods

The evaluation team used administrative data on DEEL children, teachers, and classrooms to calculate descriptive statistics and examine relationships between different aspects of SPP. Washington state data were used to compare children in SPP to similar children enrolled in

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[2] *Family members* in this report refers to parents or guardians who are the primary caretakers for SPP children.
[3] *Key DEEL informants* in this report refers to DEEL staff who participated in interviews with Education Northwest.

Washington's state-funded preschool program and estimate the impact of SPP participation on later child outcomes.

- Evaluators used a weighting technique to estimate how participation in SPP is related to WaKIDS performance in kindergarten, grade 3 assessment scores in math and reading, and kindergarten attendance rates. This ensures that the analysis compares children who participated in SPP with similar children who did not participate in SPP, weighting on demographic characteristics (race/ethnicity, gender, age, whether child is eligible for English learner services) and on TSG scores from the fall of their preschool year. This rigorous method allows for causal conclusions about the impact of SPP among the children included in the data (see appendix for details).

- Evaluators used multivariate regression analysis to explore the relationships among implementation fidelity, CLASS scores, and TSG scores. These analyses do not include weighting or a comparison to non-SPP classrooms and are not causal.

These methods, and the data used for the analyses, have four key limitations:

- Identifying children with an IEP. The DEEL data do not include a marker of when a child in SPP has an IEP, and thus we do not present analyses that examine this key group in preschool.

- Identifying SPP children in K–12 data. Matching algorithms between SPP data and K–12 data are imperfect and not all children who participate in SPP are matched with a corresponding K–12 record in the state. Additionally, not all children in SPP remain or attend public school in the state. For those children who do enroll in Washington public schools, many are correctly identified as SPP participants (that is, their records are matched), but some are not. We may not have been able to match records if a child was registered with different information (for example, if a child's name is recorded differently by the K–12 school district than it was by SPP). This means that some children who were enrolled in SPP are not identified as SPP participants and may be included in the group of "non-SPP" children in the analyses.

- Lack of data for certain cohorts. For the weighted analysis, only preschool assessment data for children attending preschool in the 2017–18 school year was available for analysis, due to the COVID-19 pandemic and other factors. If possible, this analysis should be repeated in future years with additional cohorts.

- Child assessment measures may be biased. The child assessments used in this study (TSG and WaKIDS) are the primary source of information on the performance and growth of SPP children. However, these measures may reflect cultural biases regarding appropriate performance expectations and are based on teacher observations, which themselves may be influenced by unconscious biases.

Child and family characteristics

In the first few years of the SPP program, enrollment increased from 269 in 2015–16 to 970 in 2017–18. Program enrollment was between 1,300 and 2,100 starting in 2018–19 (table 1).

RECOMMENDATION

Begin collecting data on the IEP status of SPP children to inform decisions on how to support children with IEPs.

Table 1. SPP enrollment increased as the program expanded from 2015–16 to 2022–23

	Program year							
	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23
Number of children enrolled	269	612	970	1,386	1,751	1,660	1,953	2,046

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

In 2022–23, Black children comprised the largest racial/ethnic group in SPP (28%), followed by white (25%), Asian (17%), Latinx (15%), two or more races (13%), Middle Eastern/North African (1%), and American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, and unknown race/ethnicity (1%; figure 1). Racial/ethnic composition has remained similar over time (appendix table A1).

Figure 1. Percentages of SPP children by race/ethnicity, 2022–23
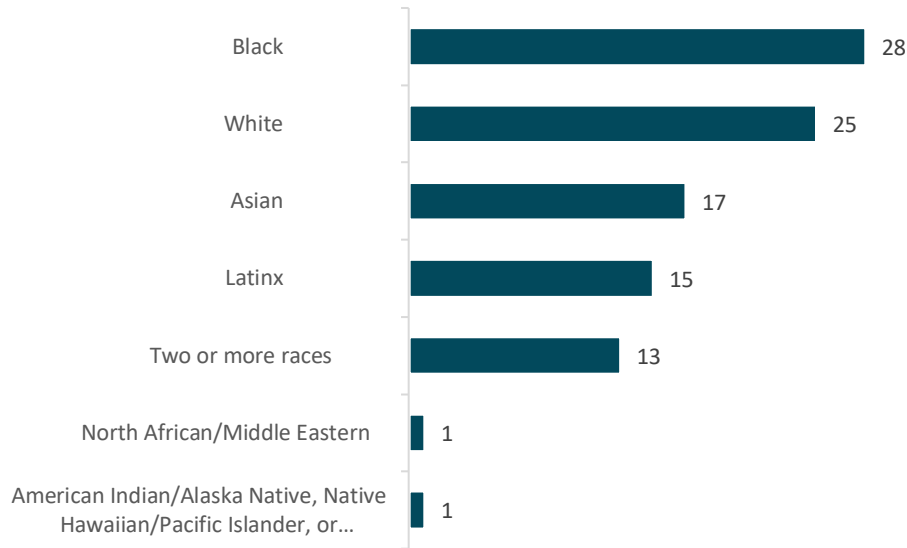
Note: Percentages for unknown race/ethnicity, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander are not shown separately due to small numbers of children. Axis shows the percentage of SPP children in each racial/ethnic group and is scaled from 0 to 50 percent. The number of children shown in this graph is 2,405.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

SPP continues to enroll children from a wide variety of linguistic backgrounds. In 2022–23, there were at least 39 different languages spoken in households with children in SPP. The eight most common primary languages were English (1,345 children), Spanish (149), Amharic (60), Vietnamese (60), Somali (58), Tigrinya (50), Cantonese (44), and Oromo (41). The proportion of children enrolled in SPP who were multi-language learners[4] in 2022–23 was 39 percent.

The average and median household incomes of SPP children have increased since the program began, likely reflecting larger shifts in the city of Seattle during this time. For example, average income increased from $56,489 in 2016–17 to $70,784 in 2022–23, and median income went from $38,996 to $48,194. In 2022–23, 47 percent of children enrolled in SPP were living in households with incomes at or lower than 185 percent of the federal poverty level; 20 percent were at 186 to 349 percent, 29 percent were at 350 percent or greater, and four percent had unknown family income levels.

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[4] *Multi-language learners* in this report refers to SPP children living in a household where a language other than English is spoken)

Findings

The findings section is organized by evaluation question and explores findings and recommendations based on multiple sources of qualitative and quantitative data. In each section, we begin with the question(s) (which are loosely aligned with the evaluation questions), then follow with a description of data sources, a summary of the findings, details of the findings, and recommendations.

What are the perceptions of how SPP impacts children and families and specifically children and families of color?

This section presents family and teacher survey and focus group data on the perceived impacts of SPP on children and families. The analysis highlights the impacts perceived among families and teachers of color. In addition to these data sources, the analysis also draws from the preschool director survey, coach focus groups, and key DEEL informant interviews to provide additional information on the perceptions and impacts of SPP.

Families and teachers perceive many positive benefits of SPP, including affordability and social-emotional skills—benefits also perceived by families and teachers of color

- Families are generally satisfied with their SPP experience

- Although most families of color are satisfied with their child's overall SPP experience, they report lower levels of satisfaction than white families

- There is widespread agreement that SPP provides a welcoming, safe, and inclusive environment for families and their children to thrive

- Family goals for SPP preschool enrollment include social-emotional skills, academics, and general classroom experience

- Families report multiple benefits of SPP enrollment and families of color report these benefits at comparable rates to white families

- SPP helps make preschool affordable for families and has helped some families to build community

- SPP teachers report high confidence in discussing race and addressing discrimination in the classroom, which may contribute to the positive perceptions from families of color.

Families are generally satisfied with their SPP experience

Overall, SPP families were pleased with their SPP experience. More than 90 percent of surveyed family members said they are satisfied or very satisfied with the child's overall SPP experience, their child's teacher, and preschool leadership (figure 2).

Figure 2. Percentages of SPP family members who were satisfied or very satisfied with SPP components, 2022–23
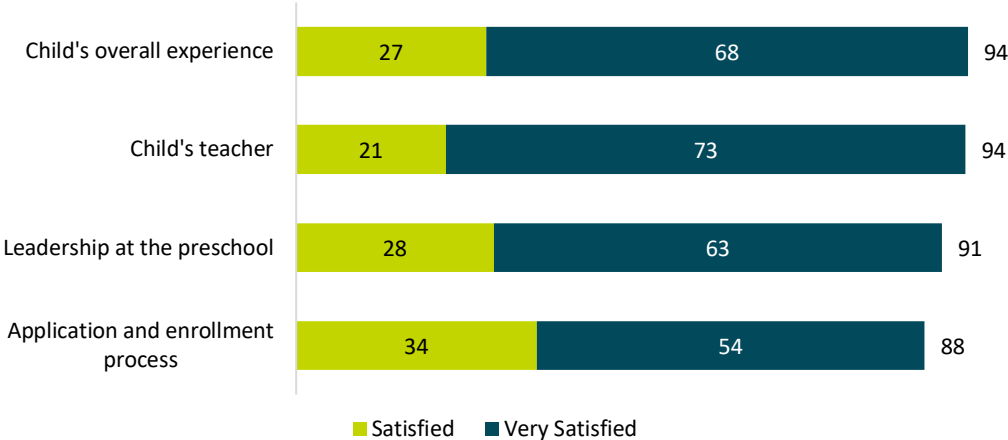
Note: The number of family members responding to these survey questions ranged from 1,015 to 1,020. Overall, 51% of families responded to the survey.
Source: Authors' analysis of 2022-23 SPP family survey data.

Family members with children at FCCs expressed slightly higher levels of satisfaction with their child's preschool teacher, school leadership, and the application and enrollment process in comparison to family members with children at CBOs or SPS sites. For example, 97 percent of family members with children at FCCs were satisfied or very satisfied with their child's preschool teacher, compared to 94 percent of family members with children at CBOs and 93 percent with children at SPS sites (see appendix figure A1).

Families in focus groups suggested several recommendations for improving the SPP application and enrollment process, which had slightly lower rates of satisfaction on the family survey (88%; figure 2). One key suggestion was to include more information about SPP preschools in the family enrollment portal. Families said that information on hours of operation, school calendar, and options for wrap-around care at each preschool would help them make better decisions during the enrollment process.

> *"It would be nice to know if they have after-school care. That would change where we apply."*
>
> **– SPP family member**

> *"It would be easier to have schedule information on the portal. Schools have really different schedules. [The portal] should include bios for each school with their hours and care options."*
>
> **– SPP family member**

Although most families of color are satisfied with their child's overall SPP experience, they report lower levels of satisfaction than white families

In the family survey, most families of color said they were satisfied with SPP overall and with their child's teacher, preschool leadership, and the application and enrollment process, with more than 90 percent of families of color expressing satisfaction with each of these components (figure 3). However, overall satisfaction was somewhat higher among white families (98%) than among families of color (93%). Notably, satisfaction with the application and enrollment process was slightly higher among families of color.

Figure 3. Percentages of SPP family members who are satisfied or very satisfied with each component of the SPP experience, by family characteristic, 2022–23
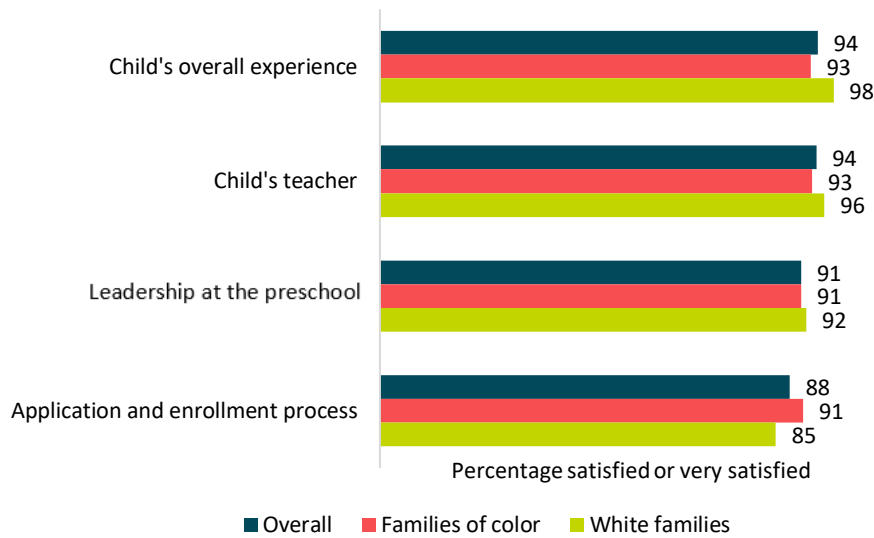
Note: The number of family members responding to these survey questions ranged from 1,015 to 1,020 for families overall, 500 to 503 for families of color, and 456 to 458 for white families. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

There is widespread agreement that SPP provides a welcoming, safe, and inclusive environment for families and their children to thrive

Families of color agree with families overall and white families that SPP meets their expectations of quality. At least 94 percent of families of color agree that SPP meets their expectations across multiple components of preschool quality—rates that are nearly identical to families overall (figure 4).

Figure 4. Percentages of SPP family members who agree or strongly agree that the program meets their expectations for multiple components of quality, by quality component and family characteristic, 2022–23
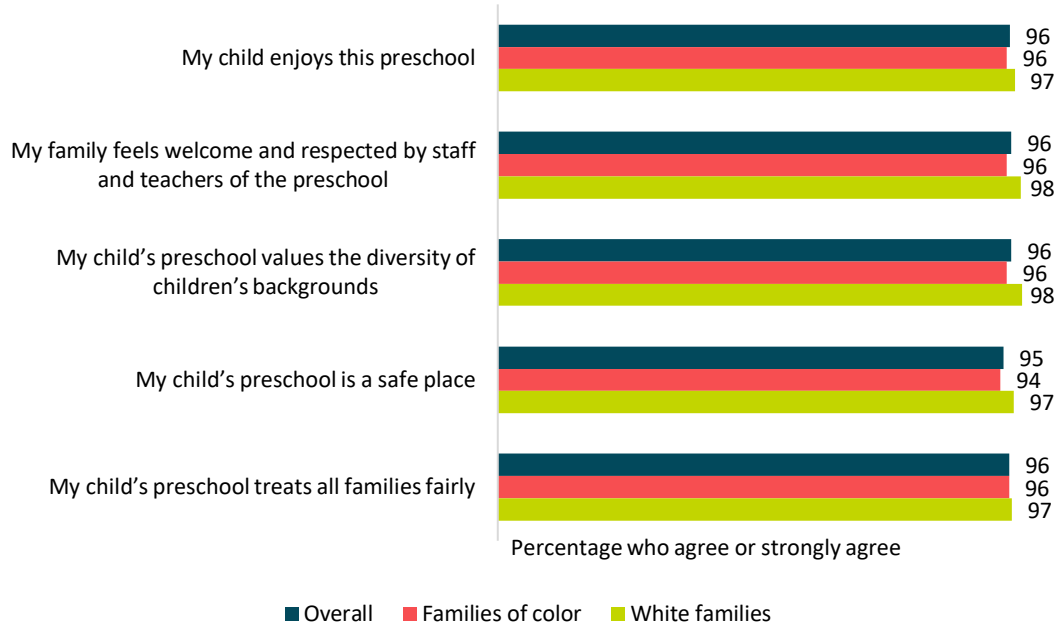
Note: The number of family members responding to these survey questions ranged from 1,016 to 1,019 for families overall, 501 to 502 for families of color, and 457 to 458 for white families. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

Family goals for SPP preschool enrollment include social-emotional skills, academics, and general classroom experience

Family goals and expectations for SPP preschool enrollment contribute to their perceptions of preschool impact. During focus groups, families shared their goals and expectations about what their child would learn from SPP. They focused on opportunities for their child to interact with peers; social-emotional skills; academic gains in subjects such as language, math, and reading, and writing; an overall "love of learning;" and experience of classroom norms.

> *"Our kids were locked down for two years and I wanted to get her around other kids. Sharing, learning emotions, when to give space. The program felt both nurturing and they are getting an education. There is lots of peer interaction and some academics sprinkled in."*
>
> **– SPP family member**

"Ability to follow classroom schedule and focus a bit. That ability is important. The ABCs will come. They first know how to walk in a line, how to sit down and eat lunch. That will help them learn when they get to kindergarten."

— SPP family member

Some family members of color mentioned that staff members' race/ethnicity and ability to speak families' home language(s) were factors in their decisions about where to enroll their child.

"For me, if there are people who speak Spanish, people who I can ask questions to, who are accessible, information is available."

— SPP family member

Key DEEL informants also noted that that the program attracts families of color and linguistically diverse families[5] in part because SPP staff members tend to be diverse and multilingual. In the 2022–23 school year, more than 70 percent of teachers identified as a teacher of color and 43 percent spoke a language other than English.

"We attract more diverse kids in part because our providers are diverse. Families want to preserve their language and culture."

— Key DEEL informant

Families report multiple benefits of SPP enrollment and families of color report these benefits at rates comparable to white families

Most surveyed family members reported positive changes in their children since enrolling in their SPP preschool. More than three-quarters of surveyed family members noticed positive changes in their child's language, physical abilities, behavior, literacy, and math skills (figure 5). The percentage of family members reporting positive changes was lower in math (77%) than in the other areas (89–92%).

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[5] In this report, *linguistically diverse families* refers to families who speak a language other than English at home.

Figure 5. Percentages of SPP family members who noticed positive changes in their child since enrollment, by area of positive change, 2022–23
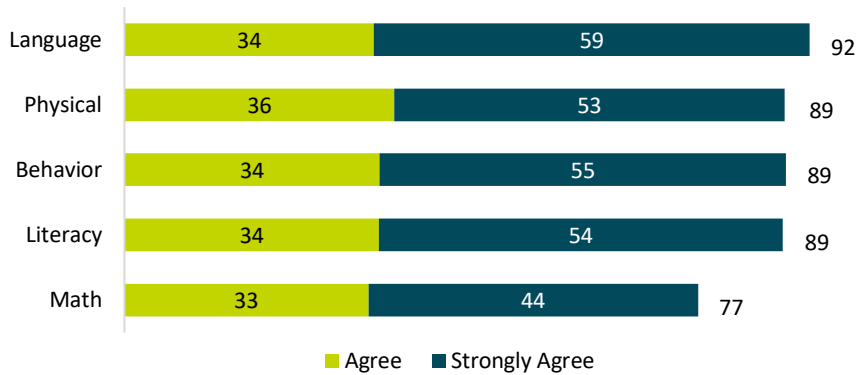
Note: The number of family members responding to these survey questions ranged from 994 to 998. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

According to family members, the actual benefits of attending preschool mostly align with family goals for enrolling their child. Family members reported in focus groups that their children had gained a diverse range of academic, social, executive functioning, and other skills through participating in SPP. These skills include letter recognition, writing their name, counting, and shape recognition. Families frequently mentioned non-academic skills as well, reporting having seen their children learn how to use "please" and "thank you," interact nicely with others, manage conflict, and lead other children through activities. Some family members described the progress their children made in speaking, and/or speaking in more than one language. Finally, some family members noted that their children had made gains in other areas such as motor skills, putting on jackets, and pre-kindergarten skills such as moving between classes.

> *"The program has also helped her learn how to express how she is feeling as she's feeling it so it can be addressed before pushing or shoving."*
>
> **– SPP family member**

In response to an open-ended survey question asking if family members wished to share anything else about SPP, a number described positive changes in their children. These changes included academic growth, preparation for kindergarten, and social-emotional growth. Family members attributed many of these changes to SPP.

"It has truly been a wonderful program for our child. She thrived in a bilingual setting and really took to learning Spanish, which is not spoken in our family. Her interactions with her peers have strengthened and improved along with her social and emotional skills."

– SPP family member

Family focus group participants were happy with what their children were learning or gaining through preschool. However, a few family members would appreciate more information from the preschool on their child's progress and learning.

"I wish there were more conferences with teachers to get more guidance on what they need help with."

– SPP family member

"I want to know what her level is at. What is she doing day to day in her level of learning? I know what I do at home, but she surprises me by doing something I didn't teach her, so, I know she learned it at the preschool."

– SPP family member

There were some differences in the percentages of family members who noticed positive changes by type of SPP site. For example, family members with children in FCCs were more likely to agree that they have noticed changes in physical abilities, behavior, literacy, or math compared to family members with children enrolled CBOs or SPS sites (figure A2). The survey results for language are relatively similar across site types.

Like SPP families overall, most families of color perceived positive changes in their children since enrolling in an SPP preschool. More than three-quarters of surveyed families of color reported positive changes in language, physical, behavior, literacy, and math skills (figure 6). They noticed positive changes at similar rates to families overall across most areas. Somewhat higher proportions of families of color (93%) noticed positive changes in their child's language or physical abilities compared to white families (86%). However, a lower proportion of families of color (87%) noticed positive changes in literacy than did white families (91%).

Figure 6. Percentages of SPP family members who noticed positive changes in their child since enrollment, by area of positive change and family characteristic, 2022–23
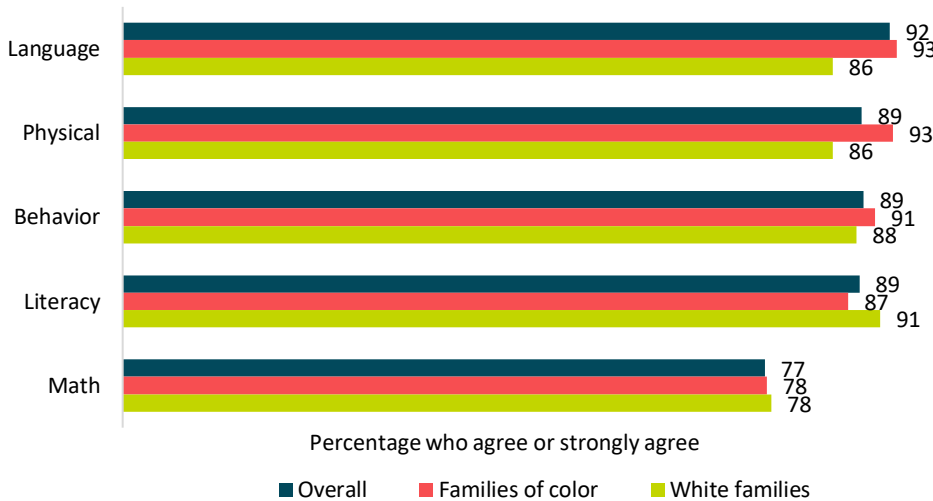
Note: The number of family members responding to these survey questions ranged from 994 to 998 for families overall, 500 to 503 for families of color, and 457 to 458 for white families. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

SPP helps make preschool affordable and has helped some families to build community

In focus groups, family members shared that SPP allows them to work, makes preschool affordable, provides access to resources and opportunities, and helps to create community.

> *"We probably couldn't have afforded preschool for one or both without SPP. It has [been] nice to focus on my own work while my kids got socialization at the same time."*
>
> **– SPP family member**

> *"We moved [to Seattle] right before the pandemic. We now have a group of 10 moms that text all the time. In the preschool program, you stand there and interact with other parents. It really built our Seattle community."*
>
> **– SPP family member**

Surveyed family members focused more on the impact of SPP on their children than on the family. The primary family impact they reported was on their ability to enroll their child in preschool. SPP

made it possible for some families to afford preschool in Seattle who would otherwise have been unable to do so.

> *"The program makes strong preschool education affordable in an expensive city. It allows families from diverse backgrounds and socioeconomic classes to be in community with one another."*
>
> **– SPP family member**

SPP teachers report high confidence in discussing race and addressing discrimination in the classroom, which may contribute to the positive perceptions from families of color

The abilities of SPP teachers to discuss race and address discrimination with children and families may contribute to family members' positive sentiments about the program. In the teacher survey, most SPP teachers reported that they were confident in their abilities to discuss race with children in a developmentally appropriate way and to address any incidents of racism or discrimination in the classroom. Ninety-one percent of teachers overall and the same percentage of teachers of color were moderately or very confident in their ability to discuss race (figure 7). Similarly, 88 percent of SPP teachers overall and 90 percent of teachers of color were moderately or very confident in their ability to address racism or discrimination within the classroom environment.

Figure 7. Percentages of SPP teachers who are confident in their abilities to discuss race and address racism, by teacher characteristic, 2022–23
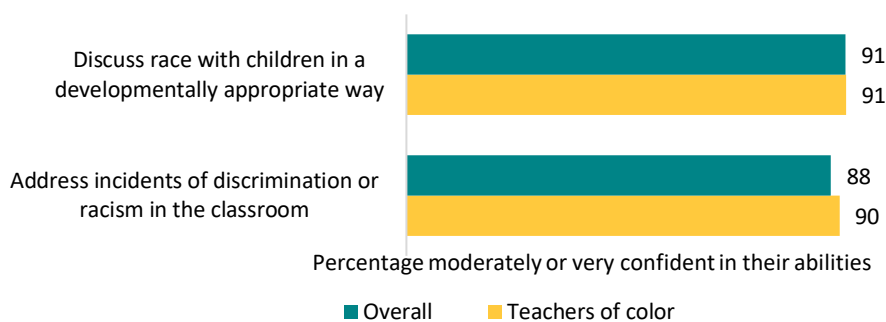
Note: The number of SPP teachers responding to these survey questions ranged from 136 to 138 for teachers overall and 80 to 81 for teachers of color. Overall, 47% of program teachers responded to the survey.
Source: Authors' analysis of 2022-23 SPP teacher survey data.

In addition, more than three-quarters of SPP teachers (79%) agree that their preschool provides adequate support for them to improve their anti-bias and anti-racist teaching practices. Teachers of color agree at slightly higher levels (82%) than SPP teachers overall.

However, key DEEL informants noted that some classrooms do not have materials that reflect the diversity of the families attending the program, and that SPP preschools could take advantage of program funding to ameliorate this. Also, key DEEL informants noted that families who speak languages other than English at home (many of whom may be families of color) may need more language support than is currently available from their program or from DEEL.

RECOMMENDATIONS

- Add more information about each SPP preschool to the enrollment portal—including preschool hours, school calendar, extended care options, and care costs—to inform family enrollment decisions.

- Set and communicate to preschools the minimum expectations for family-teacher conferences. These might include the number of conferences per year and what evidence of learning should be presented.

- Ensure that coaches are prepared to support SPP director and teacher communication with family members around child assessment results and other sources of information on learning and progress.

- Although high proportions of teachers report confidence in addressing racism, about one in five teachers did not agree that their preschool provides adequate support to improve their anti-bias and anti-racist teaching practices, indicating room for improvement. DEEL could explore ways that coaches and providers could help teachers improve such practices.

- DEEL could ensure that preschools are made more aware of funding opportunities to diversify the materials in the classroom environment and provide more language support to families as they enroll and complete paperwork.

How have race-based opportunity gaps among SPP children—as detected in TSG and WaKIDS assessments—changed over time?

This section explores outcomes for children of color enrolled in SPP including results from TSG in preschool and WaKIDS in kindergarten. These analyses do not control for other child characteristics such as family income or preferred language. For the opportunity gap analysis, the evaluation team presents results for Black children, Latinx children, Asian children, and children of color, which includes American Indian/Alaska Native, Asian, Black/African American, Latinx, Middle Eastern/North African, Native Hawaiian/Pacific Islander, and two or more races. Detailed results for all racial/ethnic groups are not presented due to the small numbers of children in some groups.

Race-based opportunity gaps are defined as situations in which data show that children of color have worse outcomes than white children. Examining these gaps can shed light on areas where improvements need to be made to achieve program equity goals; one of SPP's goals is to eliminate opportunity gaps in kindergarten readiness. This analysis examines opportunity gaps among children enrolled in SPP for 2018–19 and 2022–23, as the 2018–19 school year was the first year with larger numbers of SPP children; these years also have similar demographic compositions (see table A1). This analysis focuses on trends within children in SPP, or previously in SPP, rather than comparing SPP children to non-SPP children.

> **Race-based opportunity gaps among SPP children increased slightly for TSG measures and increased widely for WaKIDS from 2018–19 to 2022–23**
>
> - Children of color outpaced white students in growth in five of six domains in 2022–23, eliminating opportunity gaps in meeting growth targets that were present in four of six domains in 2018–19.
>
> - From 2018–19 to 2022–23, the number of domains in which Latinx and Asian children outperformed white children on the preschool growth measure increased, while the number of domains in which Black children outperformed white children on the preschool growth measure decreased.
>
> - Using a benchmark performance measure of meeting expectations in all six domains, white children outperformed children of color and race-based opportunity gaps increased between 2018–19 and 2022–23.
>
> - Kindergarten readiness rates increased for children of color, Asian children, Black children, and white children from 2018–19 to 2022–23, while rates for Latinx children remained steady.
>
> - Race-based opportunity gaps between children of color and white children widened from 2018–19 to 2022–23, particularly for Latinx and Black children.

Children in SPP met TSG growth targets in most domains when disaggregated by race/ethnicity in 2022–23, but opportunity gaps emerged in meeting spring benchmark scores

TSG is an observational formative assessment that teachers in SPP classrooms use to help differentiate and plan instruction to support children in key areas. It assesses the child across six domains (language, literacy, cognitive, math, social-emotional, and physical) and is administered in the fall, winter, and spring. SPP teachers are required to be trained in TSG administration and to complete inter-rater reliability training to help minimize bias. Teachers and directors can look at growth over time as well as whether children are meeting widely held expectations, kindergarten readiness benchmarks, and growth expectations. The assessment is available in both English and Spanish and is widely used in preschool settings across the United States.

Key DEEL informants, preschool directors, and advisory committee members have expressed concerns about the use of TSG due to potential cultural biases in the assessment, language availability (or lack thereof), reliance on teacher observation and potential for bias in that process, and whether TSG is completed for all children in a classroom, including those with disabilities.

Despite its limitations, TSG is the best longitudinal data assessment of SPP children during preschool. Based on feedback received from SPP preschool directors and the advisory committee, this report analyzes two different TSG measures.

The first TSG measure is meeting growth expectations, which compares fall-to-spring growth of individual preschool students to the expected growth based on national developmental trajectories over the same period.[6] For this measure, children are not required to meet a certain score in the spring, but rather to increase their score by a certain number of points during the year regardless of the level at which they were assessed in the fall. These growth targets are determined by TSG and encompass a range of growth that a child can achieve throughout the preschool year between the fall and spring administrations of the assessment (TSG, 2019). For example, the growth target range for the social-emotional domain for preschool 4-year-olds is 2–15, meaning that a child's score should increase anywhere between two and 15 points during the year, regardless of the fall preschool score.

The second TSG measure is whether the child met widely held expectations at the time of the spring TSG administration. For this measure, a child must meet or exceed a specific benchmark score in the spring.

Children of color outpaced white students in growth in five of six domains in 2022–23, eliminating opportunity gaps in meeting growth targets that were present in four of six domains in 2018–19

In 2018–19, white children met growth targets at higher rates than children of color in four of six domains (figure 8), indicating race-based opportunity gaps in these four domains. In the 2022–23 school year, between 88 and 93 percent of the children of color enrolled in SPP met TSG growth targets by domain (about 22% of children did not have data available for this comparison). This was a larger percentage meeting growth targets than that of white children enrolled in SPP in all domains but social-emotional, where rates were similar (figure 9), indicating that opportunity gaps disappeared for the growth measure. All children met growth targets at lower rates in each of the six domains in 2022–23 than in 2018–19.

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[6] The evaluation team used scale scores to calculate growth measures in this report; these growth measures are not comparable to previously published SPP evaluation growth measures, which used raw scores.

Figure 8. Percentages of SPP children who met TSG growth targets in each domain, for children of color, white children, and children overall, 2018–19
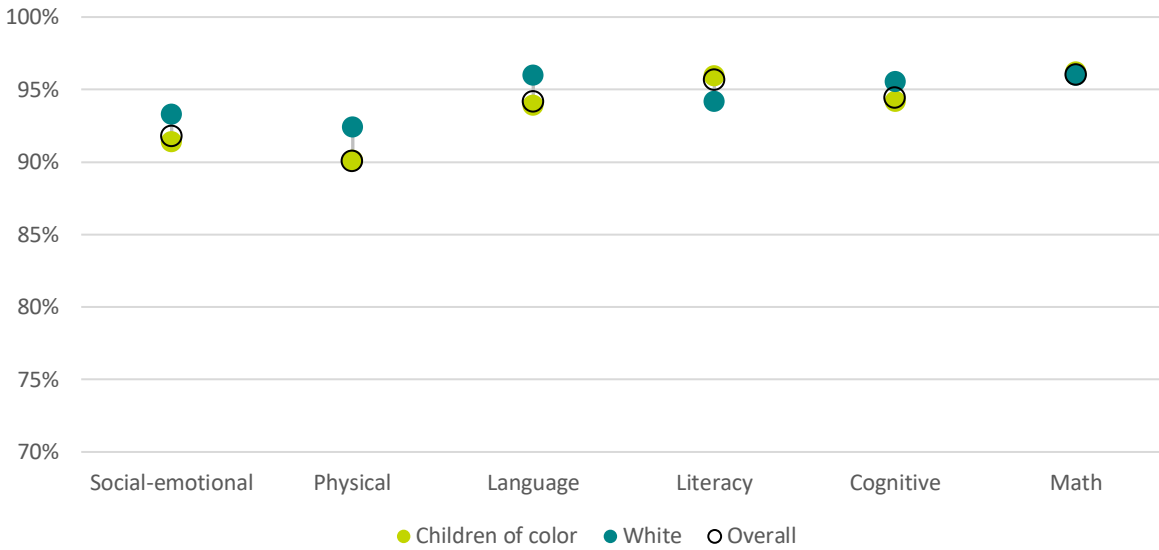
Note: The number of overall children with data in each domain, from left to right, is: 1,058; 1,056; 1,057; 1,055; 1,054; 1,054. The number of children of color ranges from 788 to 792. The number of white children is 224 in each domain.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 9. Percentages of SPP children who met TSG growth targets in each domain, for children of color, white children, and children overall, 2022–23
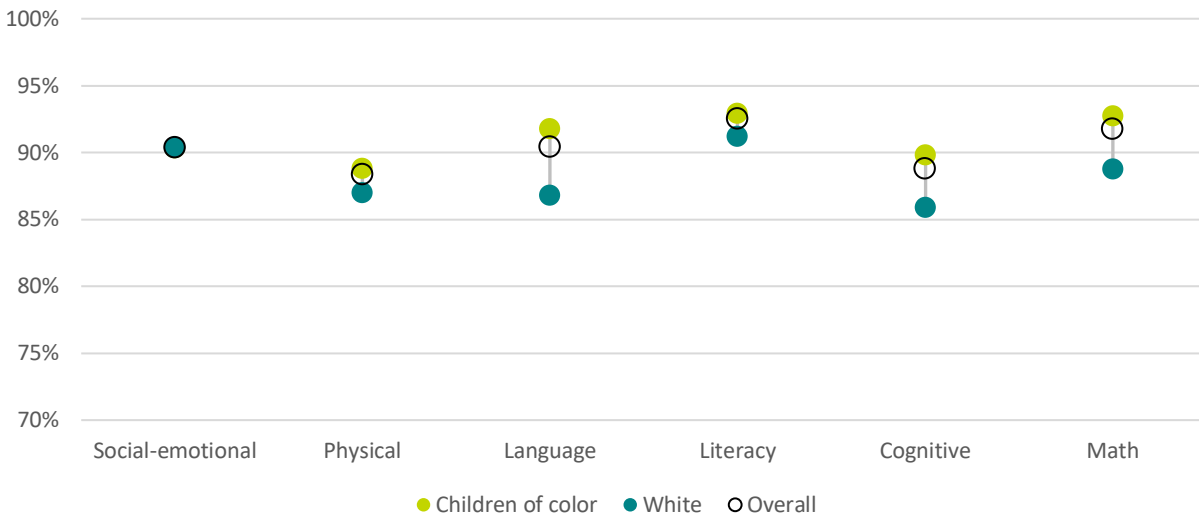
Note: The number of overall children with data in each domain, from left to right, is: 1,599; 1,597; 1,599; 1,573; 1,575; 1,573. The number of children of color ranges from 1,158 to 1,178. The number of white children ranges from 410 to 416.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

From 2018–19 to 2022–23, the number of domains in which Latinx and Asian children outperformed white children on the preschool growth measure increased, while the number of domains in which Black children outperformed white children on the preschool growth measure decreased

Latinx children met growth targets at higher rates than white children in three of six domains in 2018–19 and in all six domains by 2022–23 (figures 10 and A3). There was a similar trend for Asian children: in 2018–19, Asian children met growth targets at higher rates than white children in two of six domains, and by 2022–23, Asian children met growth targets at higher rates than white children in all six domains (figures 11 and A4). However, for Black children, the trend reversed, and opportunity gaps emerged in the social-emotional and physical domains. In 2018–19, Black children met growth targets at higher rates than white children in four of six domains, similar rates in one domain, and lower rates in one domain (math). By 2022–23, Black children met growth targets at higher rates than white children in two domains, similar rates in two domains, and lower rates in two domains (social-emotional and physical; figures 12 and A5). This indicates an increase in opportunity gaps between Black and white students in meeting growth targets.

Figure 10. Percentages of SPP children who met TSG growth targets in each of six domains, for Latinx children, white children, and children overall, 2022–23
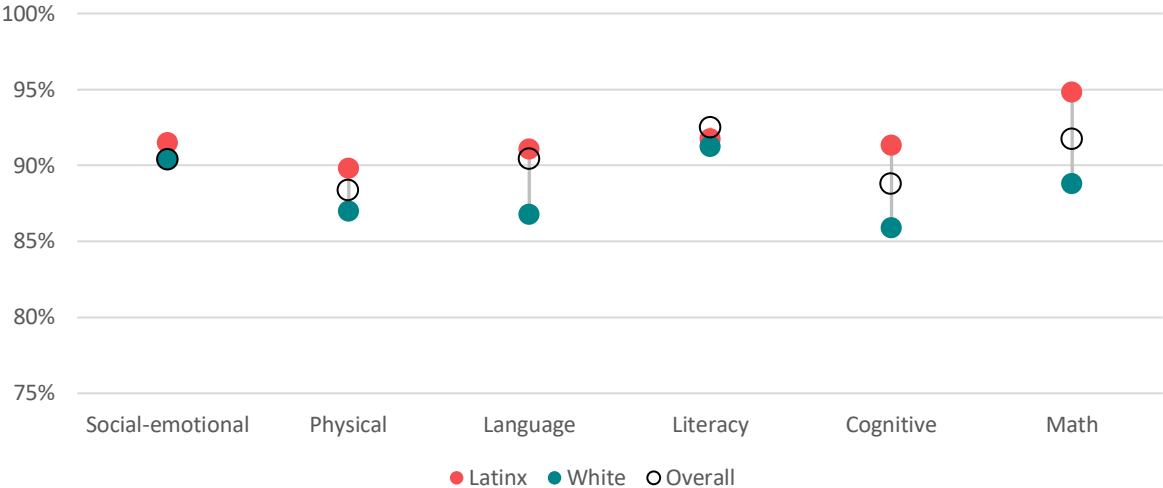
Note: The number of overall children with data in each domain, from left to right, is: 1,599; 1,597; 1,599; 1,573; 1,575; 1,573. The number of Latinx children ranges from 230 to 235 in each domain. The number of white children ranges from 410 to 416.
Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 11. Percentages of SPP children who met TSG growth targets in each of six domains, for Asian children, white children, and children overall, 2022–23
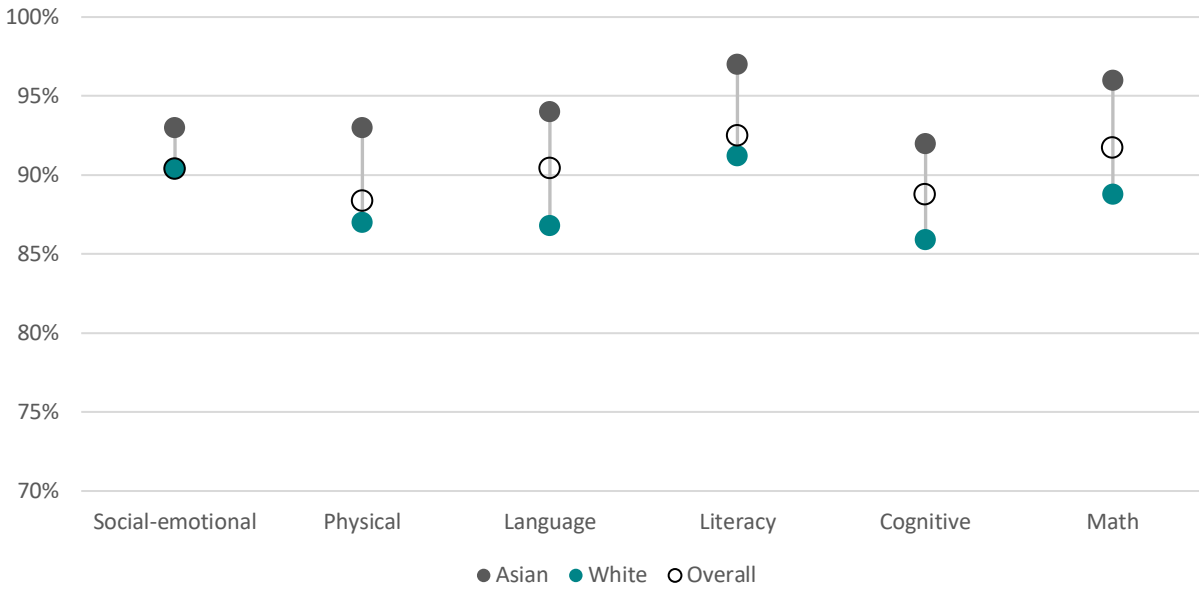
Note: The number of overall children with data in each domain, from left to right, is: 1,599; 1,597; 1,599; 1,573; 1,575; 1,573. The number of Asian children ranges from 284 to 288. The number of white children ranges from 410 to 416.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 12. Percentages of SPP children who met TSG growth targets in each of six domains, for Black children, white children, and children overall, 2022–23
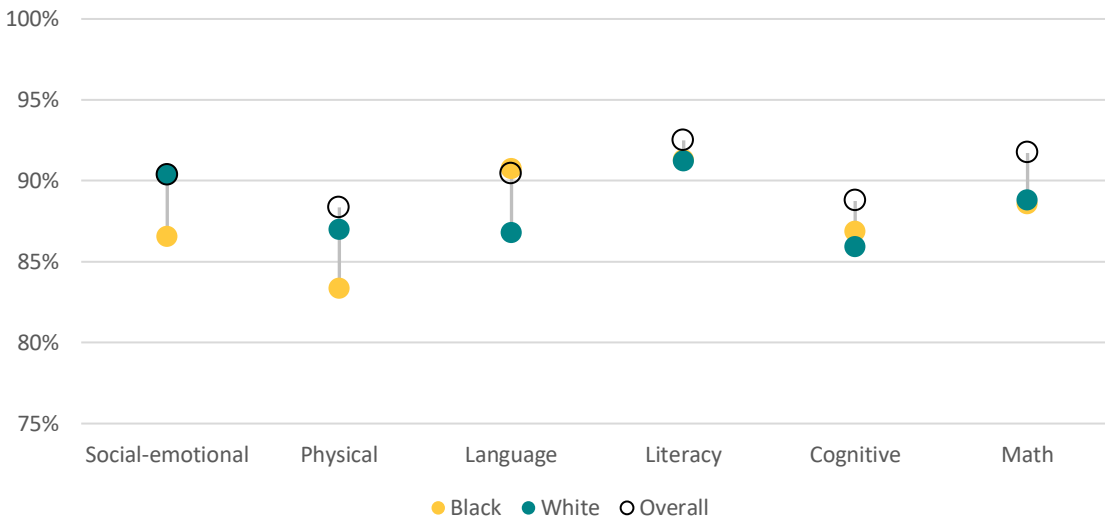
Note: The number of overall children with data in each domain, from left to right, is: 1,599; 1,597; 1,599; 1,573; 1,575; 1,573. The number of Black children ranges from 402 to 410. The number of white children ranges from 410 to 416.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Using a benchmark performance measure of meeting expectations in all six domains, white children outperformed children of color and race-based opportunity gaps increased between 2018–19 and 2022–23

For the spring widely held expectations measure, which is a benchmark of performance in the spring rather than a measure of growth across the year, the evaluation team created an indicator variable for whether the child met widely held expectations in all six TSG domains. This mirrors a measure used for WaKIDS in the following section.

Results on this widely held expectations measure showed opportunity gaps, with white children meeting expectations at higher rates on all six domains than children of color. From 2018–19 to 2022–23, the gap between children of color and white children grew by two percentage points, the gap between Latinx and white children grew by four percentage points, the gap between Asian children and white children grew by two percentage points, and the gap between Black children and white children grew by five percentage points (see figures 13, A5, A6, and A7).

Figure 13. Percentages of SPP children who met widely held expectations benchmarks on all six domains of the TSG for children of color, white children, and children overall, 2018–19 and 2022–23
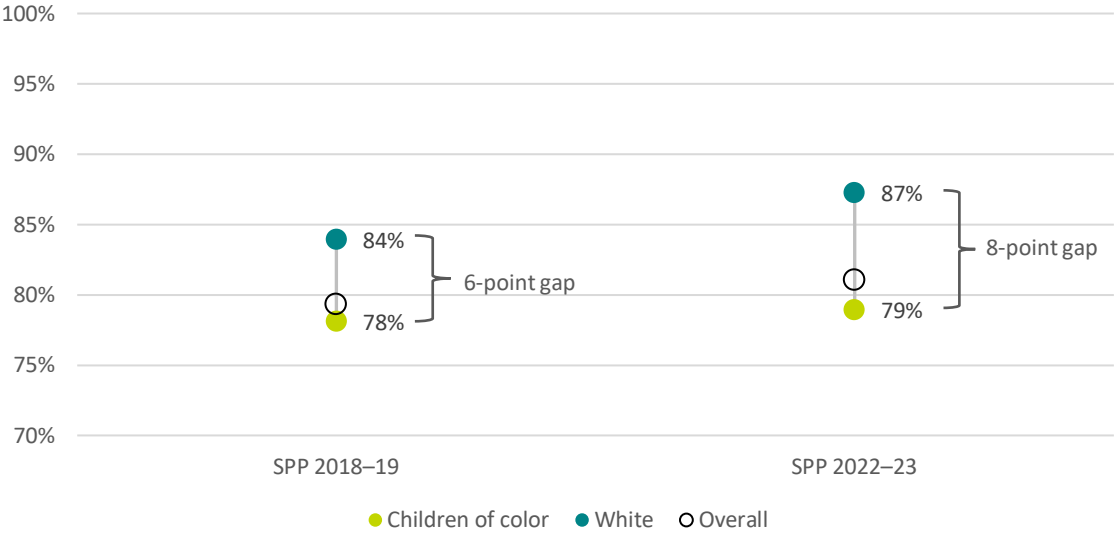
Note: The number of overall children: 1,238 (2018–19); 1,772 (2022–23); children of color: 936 (2018–19); 1,319 (2022–23); white children: 255 (2018–19); 448 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

On WaKIDS, kindergarten readiness rates increased, and racial/ethnic opportunity gaps grew among students previously in SPP between 2018–19 and 2022–23

The WaKIDS assessment is based on TSG and is used across Washington state to gauge the kindergarten readiness of students in Washington public schools in the fall of their kindergarten year. WaKIDS is also an observational assessment and is scored on the same six domains as TSG. As with TSG, key DEEL informants reported concerns about WaKIDS' cultural responsiveness. They also reported greater concerns about the reliability and bias of the assessment, as kindergarten teachers are not required to show inter-rater reliability. This observational assessment provides one measure of kindergarten readiness. There are other ways to define and conceptualize kindergarten readiness that WaKIDS does not assess, such as whether the school is ready to support the student in kindergarten.

Racial/ethnic opportunity gaps among children previously in SPP in achieving kindergarten readiness standards in each of the six WaKIDS domains have grown since 2018-19, although performance in each domain has increased among most groups as well. These trends in increasing kindergarten readiness are reflected in higher WaKIDS scores across the state (OSPI, 2024).

Kindergarten readiness rates increased for children of color, Asian children, Black children, and white children from 2018–19 to 2022–23, while rates for Latinx children remained steady

Rates of meeting kindergarten readiness benchmarks in all six domains increased for many groups of children over time, including children of color, Asian children, Black children, and white children. For example, the rate for children of color went from 52 percent in 2018–19 to 55 percent in 2022–23; the rate for Asian children went from 51 to 57 percent; the rate for Black children went from 48 to 49 percent; and the rate for white children went from 57 to 78 percent. However, the rate for Latinx children stayed steady at 47 percent.

Race-based opportunity gaps between children of color and white children widened from 2018–19 to 2022–23, particularly for Latinx and Black children

The evaluation team examined data from 2018–19 and 2022–23 on the percentages of children who met kindergarten readiness standards in all six domains. Race-based opportunity gaps grew during the four-year span between children of color and white children, Latinx children and white children, Asian children and white children, and Black children and white children (figures 14, 15, 16, and 17). In all years, white children outperformed children of color, and the distance between these groups grew over time. The gap for children of color and white children grew from five to 23 percentage points from 2018–19 to 2022–23, while gaps between Latinx and white children grew

from 10 to 31 percentage points, gaps between Asian and white children grew from six to 11 percentage points, and gaps between Black and white children grew from nine to 29 percentage points. These increased gaps may be influenced by factors relating to the COVID-19 pandemic, as reflected in national research on widening achievement gaps by race/ethnicity (see, for example, Lewis & Kuhfeld, 2023).

Figure 14. Percentages of former SPP children who met WaKIDS kindergarten readiness benchmarks, for children of color, white children, and children overall, 2028-19 and 2022–23
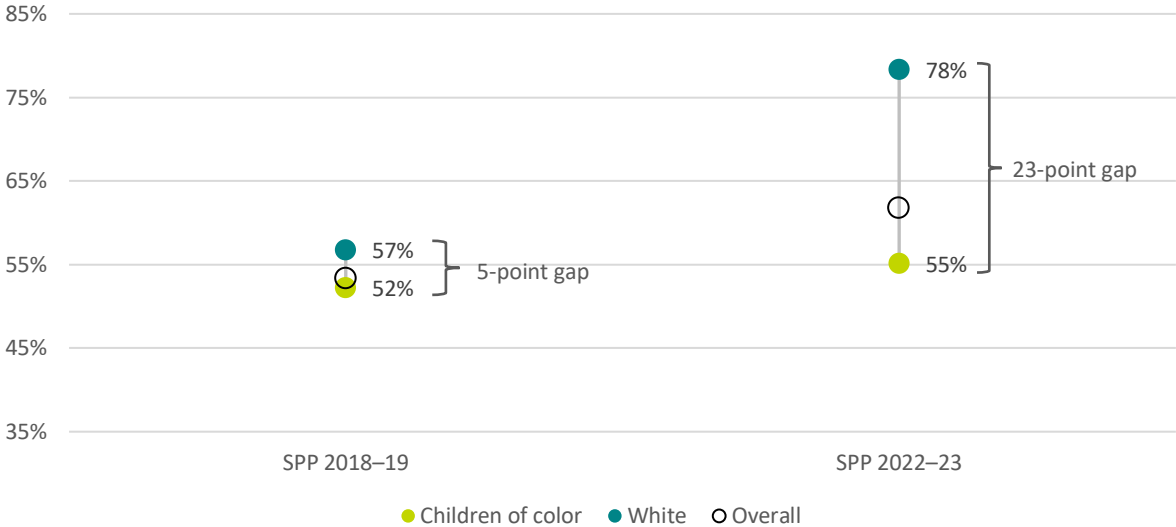
Note: The number of overall children: 461 (2018–19); 844 (2022–23); children of color: 343 (2018–19); 604 (2022–23); white children: 118 (2018–19); 240 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 15. Percentages of former SPP children who meet WaKIDS kindergarten readiness benchmarks, for Latinx children, white children, and children overall, 2018–19 and 2022–23
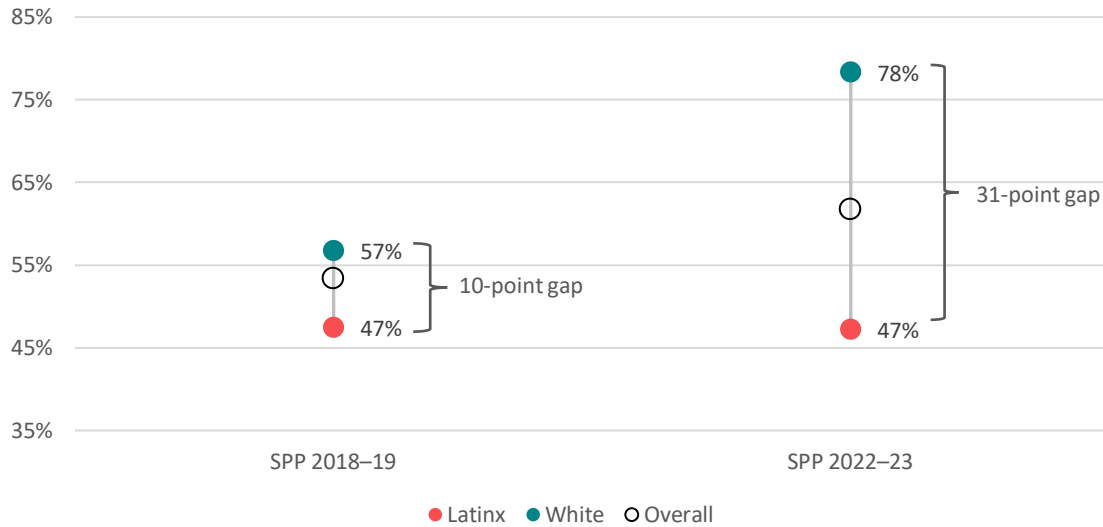
Note: The number of overall children: 461 (2018–19); 844 (2022–23); Latinx children: 59 (2018–19); 127 (2022–23); white children: 118 (2018–19); 240 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 16. Percentages of former SPP children who meet WaKIDS kindergarten readiness benchmarks, for Asian children, white children, and children overall, 2018–19 and 2022–23
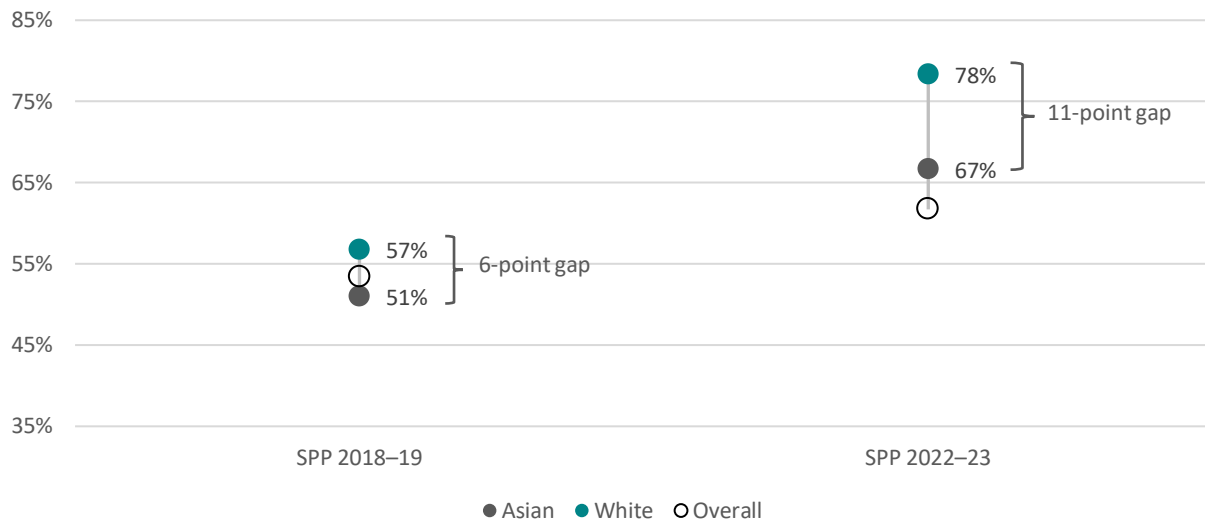
Note: The number of overall children: 461 (2018–19); 844 (2022–23); Asian children: 104 (2018–19); 138 (2022–23); white children: 118 (2018–19); 240 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure 17. Percentages of former SPP children who meet WaKIDS kindergarten readiness benchmarks, for Black children, white children, and children overall, 2018–19 and 2022–23
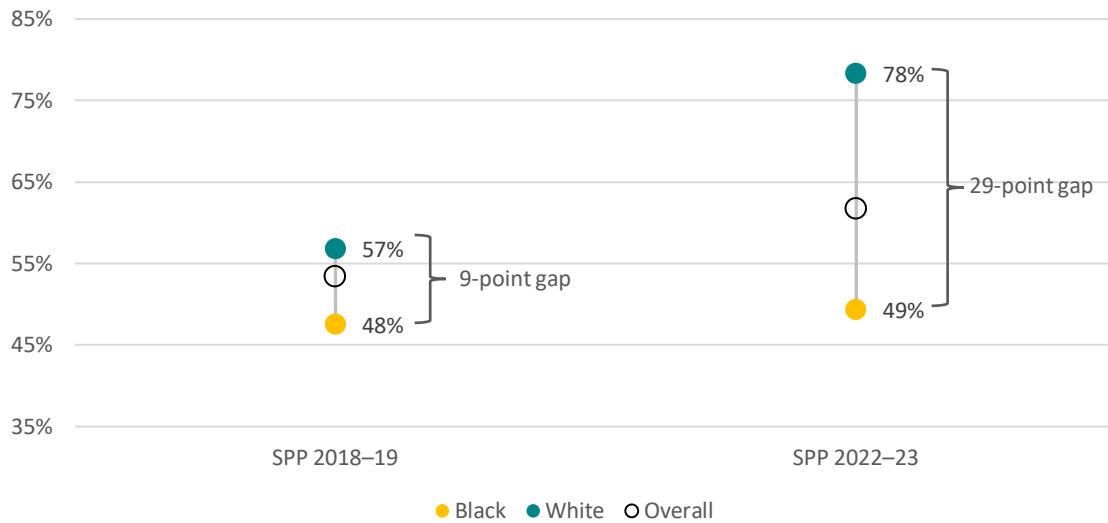
Note: The number of overall children: 461 (2018–19); 844 (2022–23); Black children: 103 (2018–19); 247 (2022–23); white children: 118 (2018–19); 240 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

RECOMMENDATIONS

- Examine and enhance supports to groups with opportunity gaps and explore potential root causes of gaps to help determine appropriate supports.

- Continue to monitor data on opportunity gaps using TSG data and WaKIDS data to understand how different cohorts of children are performing, particularly as future cohorts of children may not have been as affected by the COVID-19 pandemic.

- Encourage use of multiple measures of TSG data—such as using automated reports on growth metrics and on meeting widely held expectations—among coaches, directors, and teachers to help them understand a fuller picture of children's development.

- Ensure SPP teachers are trained in TSG administration, TSG inter-rater reliability, and anti-bias education to minimize bias in TSG scores. These trainings are required in SPP, but it can be challenging to gather data on whether teachers have completed these trainings.

- Encourage partner school districts to require WaKIDS training, inter-rater reliability training, and anti-bias training for kindergarten teachers.

How do SPP families, SPP teachers, and SPS teachers characterize student-level kindergarten readiness?

This section presents family and teacher perspectives on kindergarten readiness from the SPP family survey and focus groups, the SPP teacher survey and focus groups, and the SPS kindergarten teacher focus group. In addition, this section also presents data from the SPP preschool director survey on existing SPP kindergarten readiness services.

> ### Families and SPP and SPS kindergarten teachers highlight social-emotional skills as a key component of kindergarten readiness, but families and SPS kindergarten teachers would appreciate more information on individual student kindergarten readiness
>
> - Families said that social-emotional readiness, familiarity with routines, and academic skills are key components of kindergarten readiness
>
> - Most SPP and SPS kindergarten teachers emphasized that social-emotional skills are most important for readiness, although some teachers also mention academic skills
>
> - Most SPP families believe their child is prepared for kindergarten, although this belief varies by family characteristic and site type
>
> - SPS kindergarten teachers report that most SPP children are prepared for kindergarten, but they would appreciate more information about incoming kindergarten students
>
> - Most families feel prepared to support their child with the transition to kindergarten, although some would like more information about their child's kindergarten readiness.

Families said that social-emotional readiness, familiarity with routines, and academic skills are key components of kindergarten readiness

During focus groups, families were asked what kindergarten readiness means to them and what they think is important for their child to know at the start of kindergarten. Family members emphasized that social-emotional skills and ability to function in a classroom are fundamental. They also would like their child to become familiar with classroom routines and settings.

> *"I want her to be prepared for a classroom setting. Sitting, listening. At home, it's just me and her. I want her to know what to do, what not to do. Getting ready for kindergarten... I want her to have a jump with what to do in kindergarten."*
>
> **– SPP family member**

Most SPP and SPS kindergarten teachers emphasized that social-emotional skills are most important for readiness, although some teachers also mention academic skills

SPP teachers advocated for social-emotional skills as one of the keys to kindergarten readiness. In open-ended teacher survey responses, social-emotional skills were mentioned far more frequently than any other skills, including academic skills. Notably, social-emotional skills were mentioned at higher rates among Latinx teachers than among other teachers.

> *"Specifically with our current state of education coming out of COVID, I believe that preparing students socially and emotionally is most important. If a student doesn't know how to self-regulate, make friends, and know true kindness, then the academics part will be much harder to develop."*
>
> **– SPP teacher**

> *"I believe it's very important for teachers to support children's emotional learning because in the long term if we do not teach them how to manage feelings and emotions, they will begin to struggle emotionally, socially, and just in their life in general."*
>
> **– SPP teacher**

Executive functioning was another set of skills that many SPP teachers identified as important for kindergarten readiness. This refers to cognitive skills that allow children to self-regulate and adapt. In a preschool setting, these may include the ability to take care of basic needs, focus, problem solve, and follow directions. These skills often overlap with social-emotional skills, particularly in self-regulation.

> *"Ability to transition from one area to the next. Ability to problem solve with others in the classroom. Ability to stay in small groups and complete a task they are asked to complete. Ability to take care of their personal needs."*
>
> **– SPP teacher**

> *"In my opinion, the most important [part of preparing] children for kindergarten is learning to follow directions from their teachers and understanding how to self-advocate for themselves, and self-control."*
>
> **– SPP teacher**

SPS kindergarten teachers agree that social-emotional skills and executive functioning are factors they use to define kindergarten readiness.

> *"If they're not crying, are they able to sit in the chair? Are they able to transition to the rug? Are they able to stand in a line and walk safely from point A to point B."*
>
> **– SPS kindergarten teacher**

> *"[I look for] following the group plan. Not running away. Being able to follow along with what the group is doing."*
>
> **– SPS kindergarten teacher**

In the survey and during focus groups, some SPP teachers also identified academic skills as important for kindergarten readiness. Black/African American teachers, in open-ended survey responses, were more likely than other teachers to identify academic skills as important for kindergarten readiness.

> *"Can write their name, knows most of the letters and letter sounds, can count, and can do simple addition [and] subtraction."*
>
> **– SPP teacher**

Most SPP families believe their child is prepared for kindergarten, although this belief varies by family characteristic and site type

Although most SPP families believe their child is prepared for kindergarten, perceptions vary by family characteristic. Ninety-one percent of surveyed family members believe their child is somewhat or very prepared for kindergarten, with 54 percent reporting that their child is very prepared (figure 18). Families whose child has an IEP or who is a multi-language learner are less likely to perceive their child to be prepared (85% and 86% respectively). In comparison to the 54 percent of family members overall who believe their child is very prepared, only 37 percent of families with an IEP and 43 percent of linguistically diverse families believe their child is very prepared for kindergarten. A slightly higher rate of white families than families of color believe their child is somewhat or very prepared for kindergarten (93% and 89% respectively). However, there is a gap of 20 percentage points between white families and families of color in the proportion who believe their child is very prepared for kindergarten (45% and 65% respectively).

Figure 18. Percentages of SPP family members with each belief about their child's preparation for kindergarten, by family characteristic, 2022–23
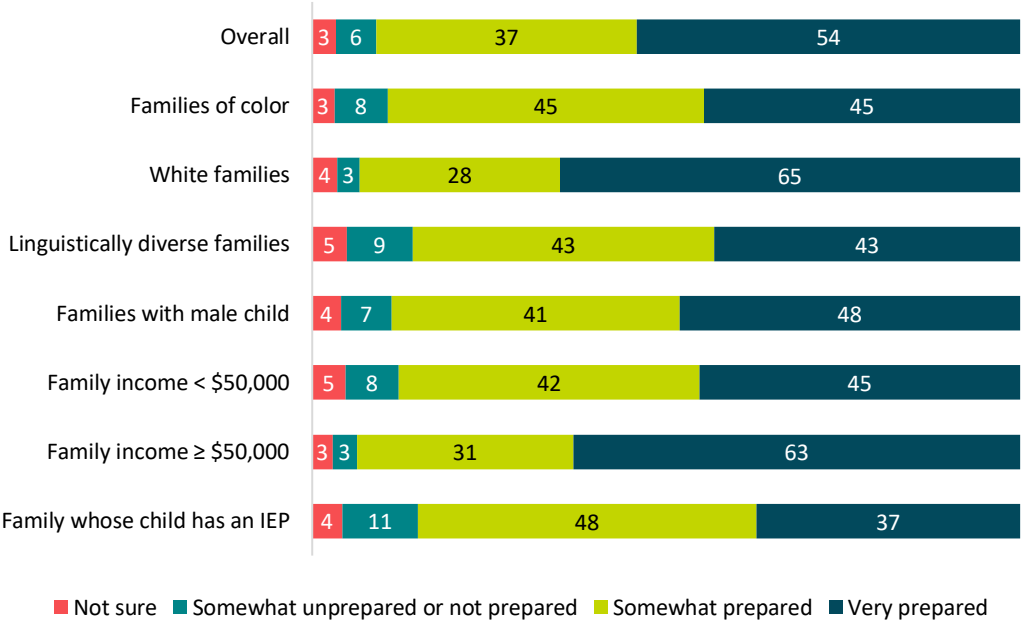
Note: The number of family members responding to these survey questions was 621 for families overall, 318 for families of color, 283 for white families, 183 for linguistically diverse families, 320 for families with a male child, 212 for families with incomes less than $50,000, 206 for families with income of at least $50,000, and 94 for families whose child has an IEP. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

Family perceptions of their child's preparation for kindergarten varied by site type. Slightly more than half (52%) of CBO families felt their child was very prepared, which was lower than the 58 percent of SPS families and 69 percent of FCC families.

SPP teachers understand their important role in preparing children for kindergarten. During focus groups, they shared the importance of being knowledgeable about child development and how to work with different types of learners, including those with special needs.

> *"It is great to see them build confidence as they learn. When I meet with parents, we discuss strengths they want to see, and we track progress over the course of the year. It makes me feel good as their teacher too."*
>
> **– SPP teacher**

SPS kindergarten teachers report that most SPP children are prepared for kindergarten but that they would appreciate more information about incoming kindergarten students

SPS kindergarten teachers reported that children who had attended SPP are generally well prepared for kindergarten, understanding daily routines and classroom rules.

> *"I feel like the kids that have come through the SPP program in my class, throughout the years, are very prepared for kindergarten. They are familiar with being in a classroom. I would say a lot of them academically come in knowing their letters and like numbers to 10, which is not required or expected."*
>
> **– SPS kindergarten teacher**

Kindergarten teachers in SPS report receiving relatively limited information about incoming kindergarten students. The information they receive typically includes birthdate, gender, and eligibility for support services such as special education or speech services. Some schools send out surveys to gather more information about preschool attendance and knowledge of numbers and letters, but this is not a consistent practice.

> *"We don't really receive any information from the preschool. But we do know basically the birthdate and gender, and if they qualify for speech, and extended resources."*
>
> **– SPS kindergarten teacher**

SPS kindergarten teachers shared that they would appreciate any information that they could get on incoming kindergarten students. Information on previous preschool attendance, social-emotional skills, executive functioning, special needs, and academics would help schools with class placements and would help kindergarten teachers to be better prepared to meet student needs.

> *"It would be nice to know if a child went to [pre]school, for how long, and where they went, I think that would be helpful."*
>
> **– SPS kindergarten teacher**

> *"Even if it wasn't if they have mastered the alphabet, I would be ecstatic to know how many of my kids are going to be able to function in a classroom without needing a lot of support."*
>
> **– SPS kindergarten teacher**

Most families feel prepared to support their child with the transition to kindergarten, although some would like more information about their child's kindergarten readiness

Eighty-eight percent of SPP families feel prepared to support their children in the transition to kindergarten, with families of color and linguistically diverse families reporting slightly higher rates of family preparation (90% and 93% respectively; figure 19). Families whose child has an IEP report feeling prepared at lower rates than other families (81%).

Figure 19. Percentages of SPP family members who agree or strongly agree that they are prepared to support their children's transition to kindergarten, by family characteristic, 2022–23
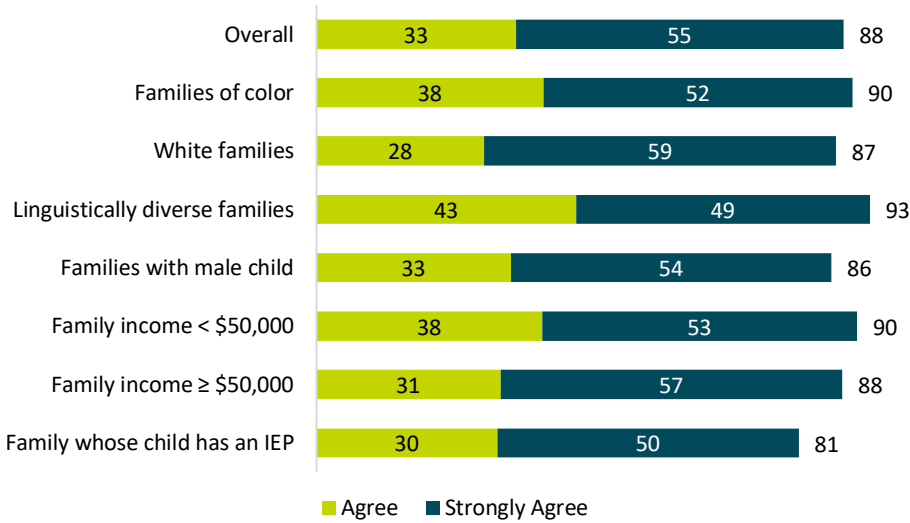
Note: The number of family members responding to these survey questions was 993 for families overall, 500 for families of color, 456 for white families, 281 for linguistically diverse families, 489 for families with a male child, 323 for families with incomes less than $50,000, 343 for families with income of at least $50,000, and 129 for families whose child has an IEP. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

There is some evidence that families with children enrolled at an FCC feel more prepared to support the transition to kindergarten. Ninety-three percent of FCC families agree or strongly agree that they are prepared and 70 percent of them strongly agree (figure 20). Comparable rates at CBOs and SPS sites are 87–88 percent agree or strongly agree and 53–57 percent strongly agree.

Figure 20. Percentages of SPP family members who agree or strongly agree that they feel prepared to support their children's transition to kindergarten, by site type, 2022–23

Note: The number of family members responding to these survey questions was 702 for families with a child enrolled in a CBO, 261 for families with a child enrolled in an SPS site, and 30 for families with a child enrolled at an FCC site. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

SPP families can play a key role in preparing their children for kindergarten if they are aware of kindergarten readiness activities and receive communications about kindergarten. Of the surveyed SPP family members who expected their children to enroll in kindergarten in 2023, most (73%) reported being aware of at least one kindergarten readiness activity at their child's preschool. Among those who were aware of kindergarten readiness activities, the most commonly reported activities were opportunities to receive information on summer learning and enrichment (29%) and on kindergarten preparation (23%). Nine percent also reported that the preschool helped them enroll their child in kindergarten.

Family members appreciate the information they have received about the transition to kindergarten, particularly on enrolling in kindergarten, which they described in open-ended survey responses.

> *"There was an event about kindergarten, and they helped us with information about enrollment, the process, the school bus."*
>
> **– SPP family member**

> *"The [preschool name] was very good about telling us when the enrollment deadlines were and how to navigate the process of applying with the Seattle School District."*
>
> **– SPP family member**

Other family members described more general information they received about kindergarten. This information sometimes covered multiple topics related to the kindergarten transition, including kindergarten readiness and how family members could help prepare their children.

> *"The teachers provide parent-teacher conferences on kindergarten readiness/transition; the teachers provide a weekly newsletter on what they are working on in the classroom and how to bring these into the home."*
>
> **– SPP family member**

The most common family member request for supporting the transition to kindergarten was more information about what it means to be prepared for kindergarten. In open-ended survey responses, some family members wrote that they would like to have more detailed information about the knowledge and skills children should have to be prepared, how prepared their children currently are, and how families can help their child be more prepared for kindergarten.

"As a parent, I'm unclear on what 'prepared for kindergarten' means. I feel confident that she will do fine but I also don't know the details of what's expected of her before beginning kindergarten."

– SPP family member

"It would also be good to know what some of the academic performance norms are for students entering kindergarten so we have a sense of where our student's strengths and opportunities are."

– SPP family member

Most surveyed SPP preschool directors report offering information on the knowledge and skills needed for kindergarten (77%; figure 21), information on kindergarten options (71%), help enrolling in kindergarten, and/or assistance finding summer enrichment programs (57%). Less common activities include visits to kindergarten classrooms (49%) and meetings with kindergarten teachers (49%).

Figure 21. Percentages of SPP preschool directors who reported providing each type of kindergarten readiness service
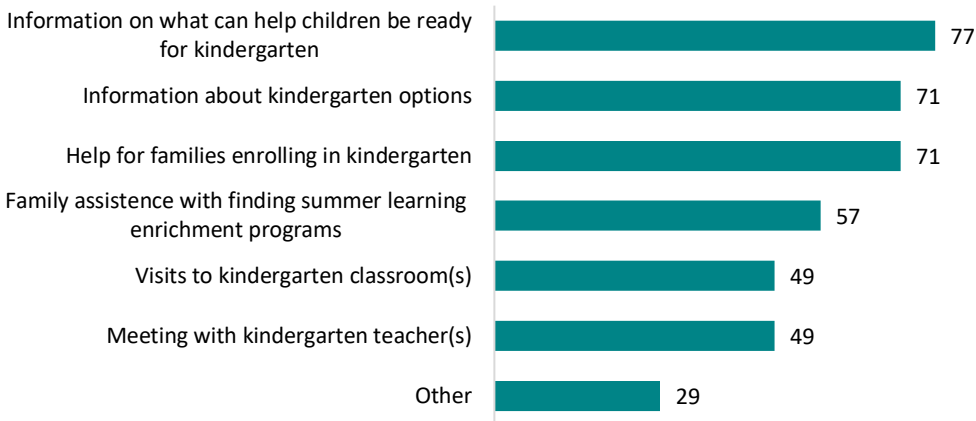
Note: The number of directors responding to these survey questions was 35. Overall, 58% of CBO preschool directors responded to the survey.

Source: Authors' analysis of 2022-23 SPP preschool director survey data.

Prior experience with SPP or other preschools may help family members understand school expectations and the importance of consistent attendance. One SPS kindergarten teacher mentioned during the focus group that SPP preschool attendance may help to prepare families for the transition to kindergarten.

"From my experience this year, the five [students] that I got that were in that preschool program … it helped in terms of the parents were really familiar with the school. The attendance is a big one for a couple of my kiddos, and I have two that didn't go to any preschool. So, whether that's the parents kind of using this year to figure out what school is. But, it seems like the five that I got that went to preschool in our building were really prepared for the kind of education they begin at my current school."

— SPS kindergarten teacher

RECOMMENDATIONS

The data collected from SPP teachers, SPP families, and SPS kindergarten teachers all suggest that SPP helps to prepare students and families for kindergarten and for the transition to kindergarten. However, some family members would benefit from more information on what will be expected of children in kindergarten and how prepared their child is to meet those expectations. Similarly, SPS kindergarten teachers would like to have more information on the students who enter their kindergarten classrooms. We offer the following recommendations for improving communication about kindergarten readiness:

- Develop and disseminate information to SPP preschools on what it means for children to be kindergarten ready, including social-emotional, executive function, and academic skills. Encourage directors to share this information with SPP teachers. Translate this information into multiple languages to ensure it is accessible to all families and teachers.

- Develop and disseminate other resources around kindergarten readiness to SPP preschools. These could include guidance on how to conduct a kindergarten information event for family members and what type of data on each child's kindergarten readiness should be presented at family-teacher conferences.

- Implement a system for transmitting SPP child-level preschool data to the kindergarten teachers at the SPS schools where each child enrolls. This would help kindergarten teachers understand their incoming students' knowledge, skills, and needs so they can place the children in the most appropriate class and plan for necessary supports.

Are SPP classrooms and programs meeting family, teacher, and DEEL perceptions of quality?

One goal of this evaluation is to better understand preschool quality. This analysis presents data from the family and teacher surveys and focus groups, the preschool director survey, coach focus groups, key DEEL informant interviews, and administrative records to investigate and better understand what it means for a preschool to be of high quality.

Although most SPP families, teachers, and directors perceive the program to be of high quality, there is still room for improvement

- Despite differences in how families assess preschool quality, nearly all SPP families perceive their child's preschool to be of high quality

- SPP preschools are friendly and welcoming places for most families

- Families generally perceive SPP preschool staff members as collaborative, although this varies by family characteristics and site type

- SPP teachers perceive their preschools to be high quality programs but noted some difficulties in serving linguistically diverse families and students with IEPs or challenging behaviors

- SPP preschool directors generally believe that their preschools provide a high-quality, affordable, and inclusive education

- Coaching and training are helpful for improving quality

- Classroom Assessment Scoring System (CLASS) scores in SPP classrooms show quality improvement over time.

Despite differences in how families assess preschool quality, nearly all SPP families perceive their child's preschool to be of high quality

Most family members agree that their child's SPP preschool met their definition of quality. Ninety-nine percent of surveyed family members said that their child's preschool at least somewhat meets their idea of quality preschool (figure 22). Perceptions of quality were remarkably consistent across families with different characteristics. At least 98 percent of family members with each characteristic agree that their child's SPP preschool meets their idea of quality at least somewhat and 82–85 percent agree that the preschool at least somewhat meets their idea of quality.

Figure 22. Percentages of SPP family members who agree that their child's preschool meets or somewhat meets their idea of quality preschool, by family characteristic, 2022–23
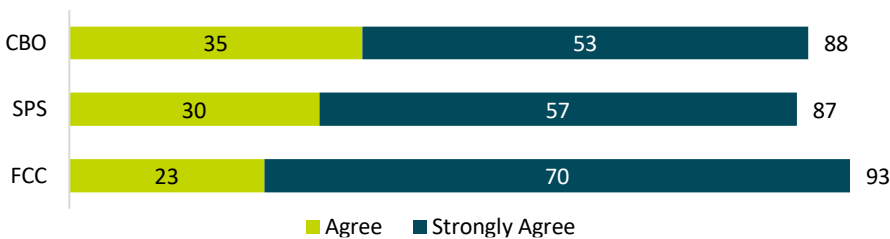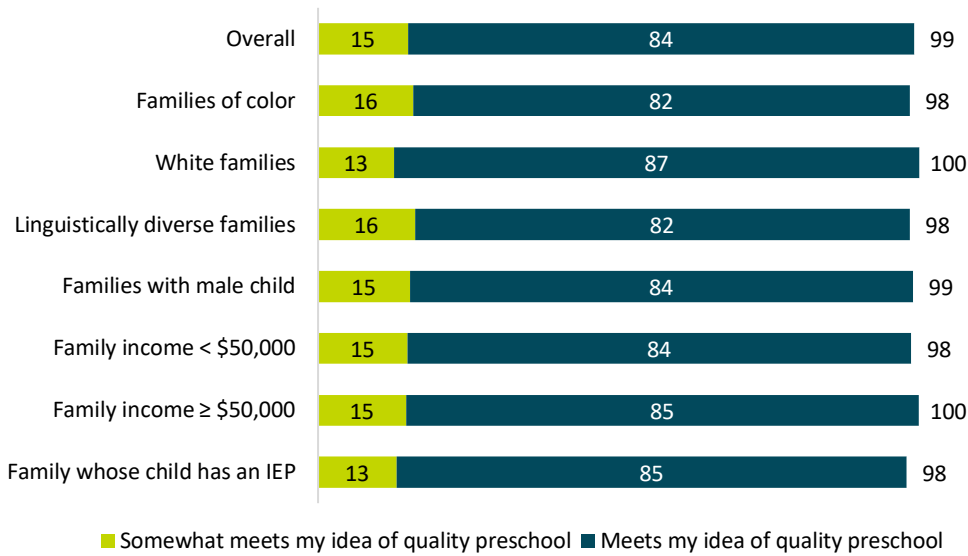

Note: The number of family members responding to these survey questions was 997 for families overall, 499 for families of color, 458 for white families, 280 for linguistically diverse families, 492 for families with a male child, 323 for families with incomes less than $50,000, 349 for families with income of at least $50,000, and 130 for families whose child has an IEP. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

Family members assess preschool quality in a variety of ways, but particularly rely on evidence of their child's learning, their child's happiness, personal opinions of preschool staff members, and (to a lesser degree) perceptions of communication from the preschool and of its diversity and inclusion practices. In open-ended survey responses, family members mentioned indicators of preschool quality including evidence of learning, engagement, and child progress in both academic and social-emotional skills. These responses mostly, but not always, reflected positively on the quality of their child's SPP preschool.

> *"My kid likes going to school and being together with his teachers and classmates. He shares with us what he learned at preschool and tells us all the happy things which happened at school."*
>
> **– SPP family member**

> *"It would have been nice if there was a little more stress on kindergarten readiness."*
>
> **– SPP family member**

Many family members expressed that teachers and staff members are a key component of a high-quality preschool experience. Family members were overwhelmingly positive about the abilities and dedication of preschool staff members, and particularly the commitment of teachers at their child's SPP preschool. It was also important to many of these family members that teachers understood and cared for their child.

> *"My child's teachers show a genuine love for my child and it's obvious that they want her to succeed. They genuinely care about her and her well-being, and it's fantastic."*
>
> **– SPP family member**

Preschool communication with family members was a component of quality for some family members, who appreciated receiving information on what their children are learning, how they are progressing, and areas for improvement. Conversely, family members who did not receive sufficient information cited this lack of information as a negative quality indicator.

> *"They check in with families daily and make us feel confident in leaving our children for the day. They send us updates about their activities for the week and the lesson plan as well. It's been amazing."*
>
> **– SPP family member**

> *"There is little communication about my child's progress and I do not know whether they are tracking my child's readiness for kindergarten."*
>
> **– SPP family member**

Finally, diversity and inclusive practices are valuable components of quality for some families. SPP families appreciate that preschool staff members celebrate diversity and ensure that all children and families are valued and included.

> *"[Preschool name] is such a magical place to learn. It is the embodiment of inclusion, and my child is learning that differences are to be celebrated and that he is capable of so much!"*
>
> **– SPP family member**

"The teachers and TAs in the SPP+ class at [preschool name] are stellar. They exhibit kindness, patience and creativity supporting a diverse group of children, several with special needs. As a parent of a neurodiverse child and also someone with neurodiversity, I am impressed that they're willing to think outside the box for us. They stretch their knowledge base, are receptive to feedback even if it counters traditional thinking, and are kind to us. I definitely like that we are a team to support my son (and me) as we navigate early childhood education."

– SPP family member

SPP preschools are friendly and welcoming places for most families

Numerous components contribute to family members' perceptions of quality, including child and family experience with the preschool and a sense of shared values. Surveyed SPP family members were overwhelming positive about some of these quality components—95–96 percent agree that their child enjoys preschool, child diversity is valued, the preschool is a safe space, the family feels welcome, and all families are treated fairly (figure 23).

Figure 23. Percentages of SPP family members who agree or strongly agree that that their child's preschool meets their expectations for each component of quality, 2022–23
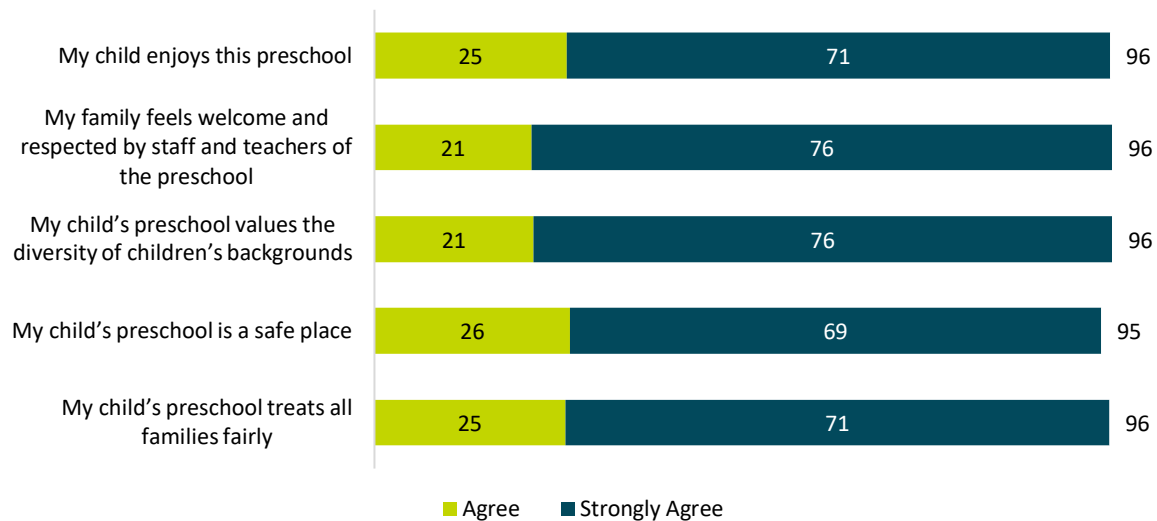
Note: The number of family members responding to these survey questions ranged from 1,016 to 1,019. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

Although most family member perceptions of these quality components were relatively similar, there were several small differences among families with different characteristics. Families whose child had an IEP were somewhat less likely to agree that the child's preschool treats all families fairly (92% compared to 96% overall). In addition, family members with a child at a CBO or FCC have slightly higher rates of agreement that their child's preschool is a safe place (97%) compared to SPS sites (93%). CBO families had higher rates of agreement (97%) that their SPP preschool values the diversity of children's backgrounds than FCC families (93%). There were no notable differences for families of color or linguistically diverse families.

There are several key practices that make family members feel welcomed and respected by their child's preschool. In open-ended survey responses, the most mentioned such practice is simply a friendly and regular greeting during drop-off and pickup. A smiling face, casual interactions, and calling family members by name went a long way toward making family members feel welcome. Additional efforts that some preschool staff members took to learn about family members' lives were greatly appreciated.

> *"The teachers greet my daughter and I every morning. They listen when I ask questions. The staff at the front desk is always warm and welcoming."*
>
> **– SPP family member**

> *"The school (teachers and admin) make a strong effort to learn about each family/child. They want to learn about your family traditions/ customs. It is such a sweet and warm environment that creates a great opportunity for learning."*
>
> **– SPP family member**

Family members cite regular communication about their child's progress and needs and responsiveness to questions and concerns as other components of a welcoming environment. These communications help to keep families informed and validate that their input is being taken seriously.

> *"[The preschool] is very welcoming and we feel like we are sending our kids to stay with family. They are open to feedback and share accomplishments and difficulties with us in a timely and in a respectful way."*
>
> **– SPP family member**

The vast majority of feedback on communication with SPP preschools was positive. However, a few family members would like to have more or more frequent information on their child's progress, strengths, and needs than is currently provided.

"[We] would like more frequent reports of how child is progressing behaviorally/academically outside of the single parent/teacher conference."

– SPP family member

Many family members note that diversity and inclusion efforts contribute to perceptions that they are welcome and respected. Family members mentioned that staff members at many preschools are interested in learning about each family's background, celebrating diversity, and creating opportunities for children to learn from each other's differences.

"They make special efforts to celebrate holidays of many cultures, including those from our family."

– SPP family member

"They welcome our neurodiverse, disabled, two-mom family with open arms. There literally isn't anything else they could do aside from teaching the rest of the schools how to be."

– SPP family member

Although not as common, family engagement events and opportunities to participate in the preschool classrooms also contributed to feelings among family members that they are welcomed and valued within the preschool community.

"They offer opportunities for us to visit the classroom and share our backgrounds, skills, and heritage."

– SPP family member

Families generally perceive SPP preschool staff members to be collaborative, although this varies by family characteristics and site type

Another key factor that had an impact on perceptions of preschool quality is preschool teachers working with family members to address their child's needs, a practice that conveys respect for both family members and their child. Across all surveyed family members, 86 percent agree that their child's preschool teachers work closely with them to meet their child's needs (figure 24). Linguistically diverse families, families whose children have an IEP, or who earn less than $50,000 annually had higher rates of agreement (91%). Fewer white families (84%) or families earning at least $50,000 (81%) agree that their SPP preschool works closely with them to meet their child's needs.

Figure 24. Percentages of SPP family members who agree or strongly agree that their child's preschool works closely with them to meet their child's needs, by family characteristic, 2022–23

	Agree	Strongly Agree	Total
Overall	31	55	86
Families of color	33	56	89
White families	28	56	84
Linguistically diverse families	35	56	91
Families with male child	30	57	87
Family income < $50,000	34	57	91
Family income ≥ $50,000	30	51	81
Family whose child has an IEP	24	67	91
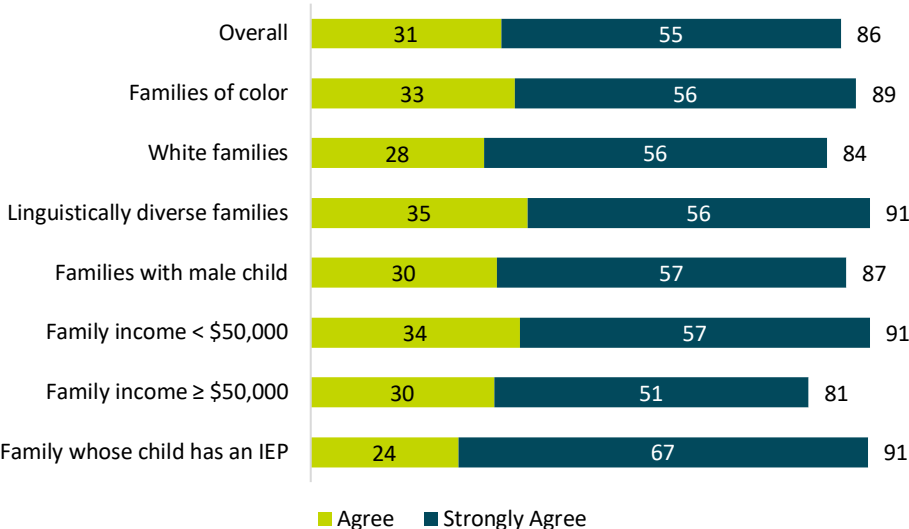
Note: The number of family members responding to these survey questions was 996 for families overall, 500 for families of color, 457 for white families, 280 for linguistically diverse families, 492 for families with a male child, 323 for families with incomes less than $50,000, 348 for families with income of at least $50,000, and 129 for families whose child has an IEP. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

The results indicate that FCC families perceive greater collaboration with their child's preschool. Ninety-seven percent of families with children at FCCs report that the preschool works closely with them to meet their child's needs, compared to 86 percent of families at CBOs or SPS sites.

SPP teachers perceive their preschools to be of high quality but noted some difficulties in serving linguistically diverse families and students with IEPs or challenging behaviors

SPP teachers mostly agree with the positive perceptions of the program's quality reported by family members. During focus groups and in surveys, teachers shared their opinions about what quality programming looks like and the SPP components that are going well. Specifically, teachers reported that a quality preschool program promotes a sense of community and inclusion, encourages learning and exploration, and has a strong curriculum, while a quality classroom is safe, clean, and welcoming to families.

> *"In a high-quality program, kids can develop positive relationships with teachers and other kids. High quality is a warm welcome for children. They are not scared any more. They are not bored. They come to the table and learn. They work together and make friends. I try to motivate the kids the best way to do things but also let them explore. Kids feel there is opportunity to do things they like to do. Culture and language should not be barriers for any kid."*
>
> **– SPP teacher**

Teachers reported striving to provide the same level of quality to all students but indicated that actual preschool and classroom quality may differ based on teacher ability to support varied languages and different ability levels.

> *"The majority [of students] receive the same level of quality, but there are some kids like dual-language learners that can be challenged based on our language ability for kids and families. We only translate into Spanish right now. Those who speak other languages may feel left out. We have a kid on an IEP for autism, and we don't have anyone with experience with that. [They] go to developmental preschool part-day, but we don't have much knowledge to help them."*
>
> **– SPP teacher**

Some SPP teachers are concerned that their classrooms lack adequate staffing, support, and training to serve students with special needs and behavior concerns effectively. By far the most common area for improvement noted by SPP teachers in open-response survey questions was concern that their classrooms—whether specifically inclusion classrooms designated as SPP Plus or not—were not sufficiently prepared to meet the needs of students with IEPs or other special needs.

> *"I'm in an SPP Plus classroom. I love that we have children with IEPs in a classroom with their 'typically' developing peers. I'm also feeling that this isn't working anymore. I think it would be good to look at some changes. Creating another classroom with only 3-year-olds. Looking at the plus model and decreasing class size and possibly decreasing the number of children with IEPs."*
>
> **– SPP teacher**

Key DEEL informants acknowledge that it can be challenging for preschool teachers to support the needs of all SPP students. Coaching focuses on trying to improve equitable teaching for students with diverse needs.

> *"With dual language learners, we are intentional in making sure that we are sensitive in student backgrounds. That is true for all children. We try to make sure we incorporate background knowledge into how the classroom operates. The classrooms I work with sometimes don't have diverse materials. So, we talk with them about making sure classrooms are representative of all kids."*
>
> **– Key DEEL informant**

SPP preschool directors generally believe that their preschools provide a high-quality, affordable, and inclusive education

Overall, the vast majority (90%) of surveyed SPP preschool directors believe that their SPP classrooms provide a high-quality experience for all children in their classrooms. Specifically, more than three-quarters of preschool directors agree or strongly agree that SPP helped them to provide a high-quality experience for children of color (85%; figure 25), multi-language learner children (81%), and children with disabilities (76%).

Figure 25. Percentages of SPP preschool directors who agree or strongly agree that the program helps them to provide a high-quality experience for children with different characteristics, 2022–23
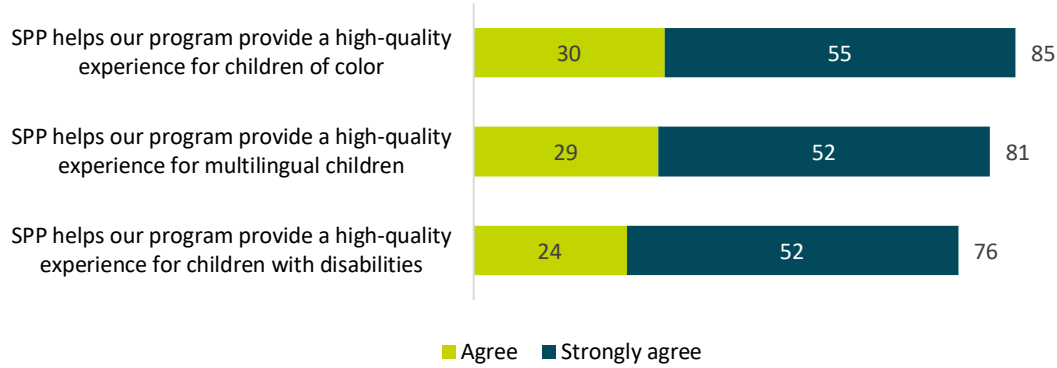
Note: The number of SPP CBO preschool directors responding to these survey questions ranged from 20 to 21. Overall, 58% of SPP CBO preschool directors responded to the survey.

Source: Authors' analysis of 2022-23 SPP preschool director survey data.

Open-ended survey responses from SPP preschool directors suggest that preschool directors believe that SPP preschools provide a high-quality preschool education overall. They cite affordability, inclusivity, and quality education as key benefits of the program.

> *"Free six hours for low-income and immigrant families. More locations for family to choose. The high-quality education in the ECE field."*
>
> **– SPP preschool director**

> *"Funding and supports to provide high-quality and inclusive programming."*
>
> **– SPP preschool director**

Coaching and training are helpful for improving quality

Coaching and training are two of the primary methods that SPP uses to help improve preschool quality for SPP preschool teachers and staff members, including directors. This section describes suggestions from SPP preschool directors, teachers, and coaches about how to improve SPP preschool quality through coaching, trainings, and additional staffing supports.

Coaches use a customized approach that both teachers and directors find useful

SPP coaches reported that they support teachers by building relationships, being responsive to their needs, and helping them navigate SPP requirements. Coaches said it takes time to build relationships with teachers and set goals together. The coaching approach is customized for each teacher or director.

> *"Ideally, coaching looks like observation, practice, reflective feedback, and other times it's hand-holding. It's responsive and necessary."*
>
> **– SPP coach**

In the survey, teachers indicated that coaching may be helping them to improve preschool quality in their classrooms. Seventy-three percent of teachers surveyed indicated that SPP coaching has had a moderate or significant impact on their ability to support children's kindergarten readiness (figure 26), with 31 percent indicating that their coach had made a significant impact. Linguistically diverse teachers[7], teachers of color, and early career teachers were even more positive than teachers overall, with 79–83 percent reporting a moderate to significant impact of coaching on their abilities.

Figure 26. Percentages of SPP teachers who reported that their coach had a moderate or significant impact on their ability to prepare students for kindergarten, by teacher characteristic, 2022–23

	Moderate impact	Significant impact	Total
Overall	42	31	73
Teachers of color	39	39	79
Linguistically diverse teachers	33	50	83
Early career teachers	39	39	79
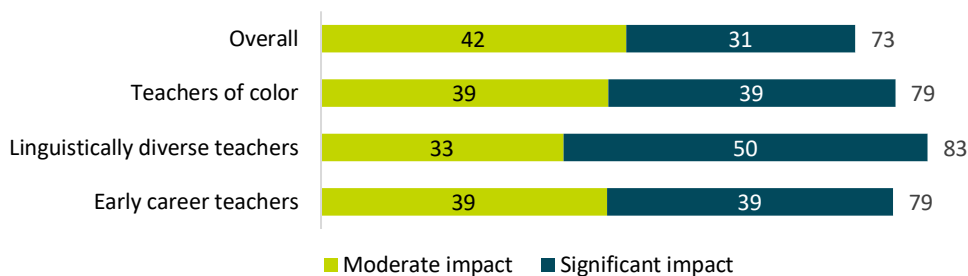
Note: The number of SPP teachers responding to these survey questions was 124 for teachers overall, 71 for teachers of color, 30 for linguistically diverse teachers, and 28 for early career teachers. Overall, 47% of the program's teachers responded to the survey.

Source: Authors' analysis of 2022-23 SPP teacher survey data.

Like teachers, SPP preschool directors participate in SPP coaching and training and most reported that their coach helps them improve their program and that they feel supported by their coach.

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[7] In this report, *linguistically diverse teachers* refers to teachers who report speaking a language other than English.

Eighty-six percent (figure 27) reported that their coach helps them improve as a director and 83 percent indicated that their coach helps their program improve. Fewer directors agree with statements that the program helps their teachers improve (68%) or that their coach helps them use data to improve their program (64%).

Figure 27. Percentages of SPP preschool directors who agree or strongly agree with each sentiment about coaching, 2022–23
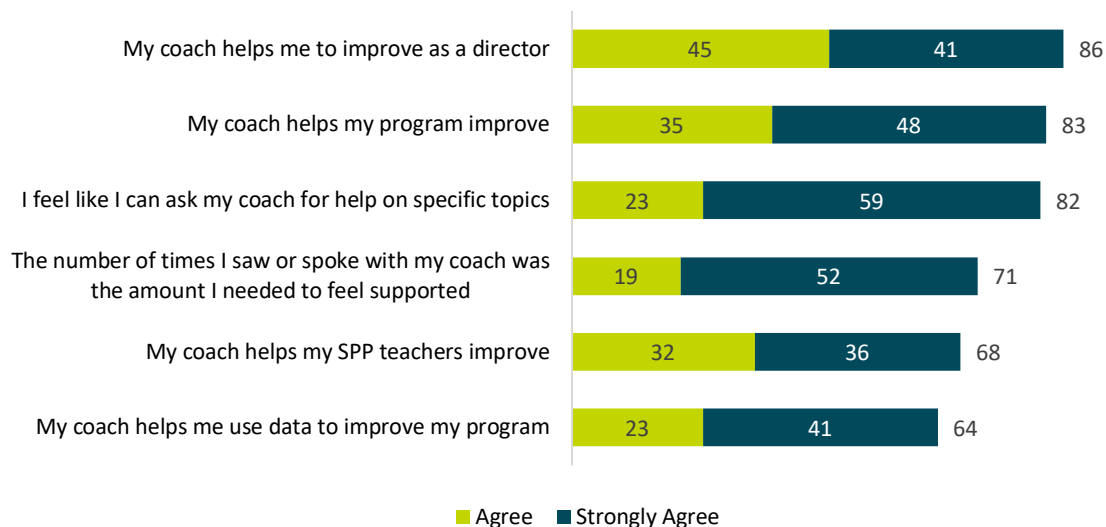
Note: The number of SPP CBO preschool directors responding to these survey questions ranged from 21 to 22. Overall, 58% of CBO preschool directors responded to the survey.
Source: Authors' analysis of 2022-23 SPP preschool director survey data.

In open-ended survey responses, preschool directors reported that their coach helps them and their teachers to improve program quality through positive coaching practices and support.

"[Coach name] is very supportive to the teachers and spends time developing relationships with them and individualizing her supports to their needs."

– SPP preschool director

"My coach gave me a lot of support with trainings and strategies to improve behavior of children in my class and also [helped] make a good team with my co-workers."

– SPP preschool director

Directors cite some types of coaching content as particularly useful, such as help with curriculum, assessment, and culturally responsive practices.

> *"[Coaching helped our program] by applying best practices incorporating anti-bias awareness, culturally responsive, anti-racist practices."*
>
> **– SPP preschool director**

> *"[Coaching] sharpened our teachers' skills in the curriculum and the assessment tool."*
>
> **– SPP preschool director**

Coaches and preschool directors agree that more frequent coaching would be beneficial for improving preschool quality

While director feedback on coaching is very positive, there is a desire among preschool directors for more coaching. When asked in the survey for recommendations about how to improve coaching and SPP overall, preschool directors had the following suggestions:

> *"Don't spread the coaches so thin that they find it hard to schedule time and visits with the staff."*
>
> **– SPP preschool director**

> *"Consistent scheduling with coaching and follow thru with contract requirements such as timely data meetings, coaching cycle write-ups."*
>
> **– SPP preschool director**

Coaches shared preschool director concerns about coaching caseloads. One coach noted that their average caseload had increased from eight classrooms to 12, which made it challenging to address some teachers' needs.

> *"[Coaching] loads have increased so much that it just doesn't give us the amount of time that some of these teachers really need when it comes to coaching."*
>
> **– SPP coach**

While preschool directors, coaches, and teachers generally perceive SPP trainings to be useful for quality improvement, they also identify the need for more targeted trainings outside of work hours in several key areas

Eighty-one percent of SPP preschool directors agree that trainings have helped their program improve (figure 28). However, there was considerably less agreement (41%) that the required trainings included a focus on culturally responsive, anti-bias, and anti-racist practices. As a focus on race and social justice, anti-bias education, and culturally responsive teaching is an explicit focus of SPP director-level training,[8] this may be an area for improvement for the program.

Figure 28. Percentages of SPP preschool directors who agree or strongly agree with each sentiment about SPP trainings, 2022–23
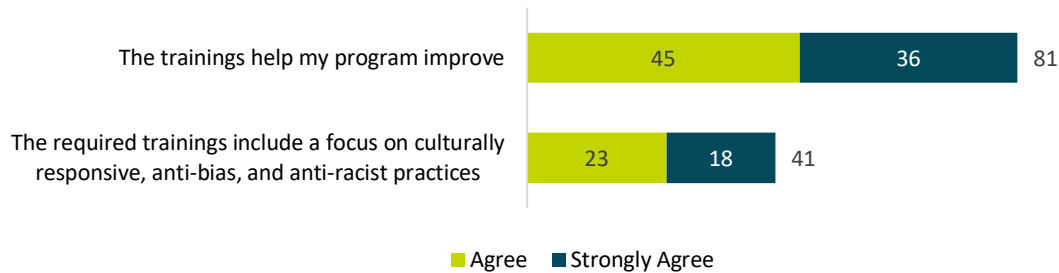
Note: The number of SPP CBO preschool directors responding to these survey questions was 22 across both questions. Overall, 58% of CBO preschool directors responded to the survey.
Source: Authors' analysis of 2022-23 SPP preschool director survey data.

Ninety-one percent of surveyed preschool directors reported attending a City of Seattle anti-bias training in the last year. At least half of preschool directors who received this training agree that it had increased their understanding of anti-bias education (60%) and confidence in leading an equitable early learning program (50%; figure 29).

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[8] This focus is described in the 2022–23 SPP program manual.

Figure 29. Percentages of SPP preschool directors who agree or strongly agree with each sentiment about Department of Education and Early Learning anti-bias trainings, 2022–23

	Agree	Strongly Agree	Total
The trainings increased my understanding of anti-bias education	45	15	60
I am satisfied with the quality of training content on anti-bias education	40	20	60
I am satisfied with the quality of the speakers in the anti-bias training	35	20	55
The trainings increased my confidence in leading an equitable early learning program	35	15	50

■ Agree   ■ Strongly Agree
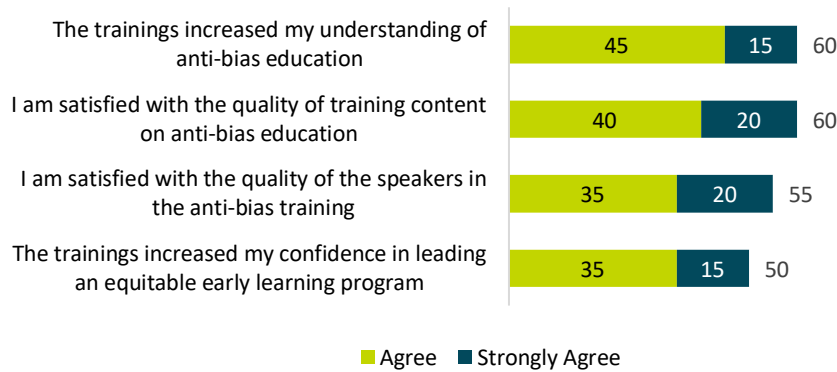
Note: The number of SPP CBO preschool directors responding to these survey questions was 20 across both questions. Overall, 58% of CBO preschool directors responded to the survey.

Source: Authors' analysis of 2022-23 SPP preschool director survey data.

While most of the preschool director feedback on trainings was very positive, some directors would like more diverse training opportunities than they currently have access to or are required to participate in.

> *"[I would recommend] new trainings for teachers and directors to learn new things. Many of the trainings offered I have taken before and more than once."*
>
> **– SPP preschool director**

Coaches help both new and veteran SPP teachers implement the curriculum and maintain fidelity to the curriculum by observing teachers and modeling and discussing high-fidelity implementation. In practice, effective implementation depends on teacher knowledge of the curriculum. Coaches note that new teachers often have to learn the curriculum as they teach it.

> *"Teachers] need to know this curriculum. If they are a new teacher and haven't been trained on it, they have a responsibility to know it but have to learn on the fly. The [SPP] program needs to have a greater responsibility for teacher training, making sure they are prepared to be in these classrooms."*
>
> **– SPP coach**

SPP teachers participate in core training on High Scope, Creative Curriculum, TSG, CLASS, and Ages and Stages Questionnaires (ASQ) each year. Those trainings are supplemented by emergent training based on teacher needs. DEEL informants indicate that the number of annual trainings can be challenging for teachers because it means a lot of time out of the classroom.

> *"I think training could be more intentional from DEEL leadership. You can't just throw training out there. We can tell providers they are not meeting requirements, but we lack the structural capacity. I would like to offer some alternative pathways to meeting required training. We have a lot of training, maybe too much. New teachers sometimes have an insurmountable amount of training. They would have to be out of the classroom all the time or attending training on their personal time."*
>
> **– Key DEEL informant**

SPP teachers, during focus groups, agreed with coaches that both lead and assistant teachers would benefit from more trainings and that trainings should be offered in Spanish as well.

> *"More training from SPP on what is required and how to work with families. More training for both lead and assistant teachers. That would help us along the way. More trainings for our teacher who speaks Spanish. Lots more training. We haven't had much training in a while."*
>
> **– SPP teacher**

In the survey, SPP teachers clearly expressed the need for more training in social-emotional and behavioral supports as well as in how to support students with special needs. Thirty percent of SPP teachers identified trauma and adverse childhood events and 25 percent identified adult/child interactions and behavioral support as areas in which they would like more training. In addition, 13 percent would be grateful for more training in conducting assessments and nine percent would like more training in IEP support plans.

Open-ended teacher survey responses indicate that many of the trainings have been useful, but they would like more trainings offered outside of work hours and targeted training in additional areas, particularly in supporting students with special needs.

"It would be helpful to have more trainings outside of work hours and also scheduled enough in advance (before the start of the new school year) in order to request in-service days in order for our center to close so that all staff can attend."

– SPP teacher

"I would like more specific training on supporting multilingual students. I would also like training on how best to approach TSG assessments and how to 'level' students who speak little or no English. Also, special education teachers who work in SPP programs must be trained in the curriculum used by the classroom they are teaching in. I hope this is a change the city can help make ASAP."

– SPP teacher

"There absolutely needs [to be] more trainings on giving accommodations for students with IEP's in the class before we commit to 20 hours of HighScope training for SPP Plus classrooms … This training needs to be like a 101 around IEPs around different types of accommodations different things you see in children and what would help them. And it should be explicit on how the Special Ed teacher and the GenEd [general education] teacher can help each other."

– SPP teacher

It has been difficult to hire and provide effective support to teachers who can address the needs of all students in their classrooms

Teacher mental health was an area of concern among SPP coaches. Coaches shared the belief that many teachers are burned out and may struggle to improve classroom quality. While some teachers can take time off in the summer or to participate in professional development, teachers at other sites do not have the same opportunities, resulting in inequities. Coaches have focused on social-emotional support for teachers and for students this year, to reduce teacher stress and turnover and to help both children and teachers adjust to their classrooms after pandemic-related closures.

"We can't have a high-quality classroom if educators are burnt out. I wish we could take that more into account. A lot of times, the conversations [among SPP leaders] that I've been a part of when coaches bring this up, I sense a subtext of, 'Well, yes, that's important, but if we let up on educators too much, or if we move this requirement, then we're shortchanging kids.'"

– SPP coach

Preschool directors are concerned about their ability to hire and retain high quality staff and about how this may impact their continued ability to provide high quality preschool education.

"Sometimes the expectations don't match with the extreme challenges of our field. There are few qualified teachers out there and SPP has a narrow definition of qualified teachers. I still think there is a large disconnect between DEEL staff and the real challenges of providers. As directors, we are often in classrooms and wearing many hats."

– SPP preschool director

"The ECE field is in crisis, and we can't hire and retain staff. We need more initiatives that focus on this as well so we can continue to provide high quality care and education."

– SPP preschool director

In addition to these concerns, preschool directors also recommended offering more language translation support to preschools, particularly, but not limited to, during program enrollment.

"[We need] SPP translators who can help providers explain the program and forms who can come out maybe 2–4 times per year to support the languages in the programs [by] providing translation."

– SPP preschool director

Teachers advocate for additional staff and additional training to help them improve preschool quality, particularly for multi-language learners and students with special needs. Lower staffing ratios and staff members with specialized knowledge would help them better address the diverse needs of their students. However, some preschools find it difficult to hire and retain staff members that meet the requirements of SPP, and consequently some currently hire the family members of

enrolled children to supplement their staffing needs. In addition to additional staffing, targeted training for teachers on how to support multi-language learners or special needs students may also help to improve preschool quality.

> *"I will always advocate for lowering the number of students in licensed spaces—if you are looking to provide high-quality early learning care for children, then you must start taking this seriously. I suggest that SPP classrooms should be capped at 15 students and that SPP classes should have more than one assistant per room (or a mix of people who can provide additional support) … Quality does not come from increasing the quantity of students in the classroom. This only lessens the amount of time a teacher can dedicate to families and students."*
>
> **– SPP teacher**

> *"I do not have a degree in special education, and it is very hard to provide high-quality early learning to children with needs. Also, I am not a behavioral therapist either and it is very hard to work with children that hit, bite, and kick you."*
>
> **– SPP teacher**

Classroom Assessment Scoring System (CLASS) scores in SPP classrooms show quality improvement over time and remain above 2020 national levels

SPP has used CLASS since 2015–16 as a measure of classroom quality—specifically the quality of teacher-child interactions. CLASS assesses three domains of those interactions: classroom organization, emotional support, and instructional support. The domain of classroom organization assesses the management of children's behavior, time, and attention (Head Start, 2021). The emotional support domain measures the extent to which teachers promote a positive classroom climate. The instructional support domain assesses the degree to

which teachers implement curriculum and effectively promote cognitive and language development.

Certified CLASS observers use a specific protocol to rate each classroom on a scale of 1–7, where scores of 1–2 indicate low-quality interactions, 3–5 indicate mid-quality interactions, and 6–7 indicate consistently effective interactions (Head Start, 2021).

The number of SPP providers and classrooms has increased each year, with 88 sites operating 135 classrooms in 2022–23. The majority of these classrooms (57%) were located in CBOs, with the remaining classrooms located in SPS preschools (27%) or in FCCs (16%).

Among the 57 classrooms that were rated on CLASS in 2022–23, average scores increased in each domain compared to the prior year (figure 30). Classroom organization scores increased slightly from 6.2 to 6.4, emotional support increased slightly from 6.6 to 6.7, and instructional support increased from 3.2 to 3.8. All these scores were above the 2020 Head Start national means of 6.0 for classroom organization, 5.8 for emotional support, and 2.9 for instructional support (Head Start, 2020).[9]

Figure 30. Average CLASS scores by domain and school year, 2017–18 to 2022–23
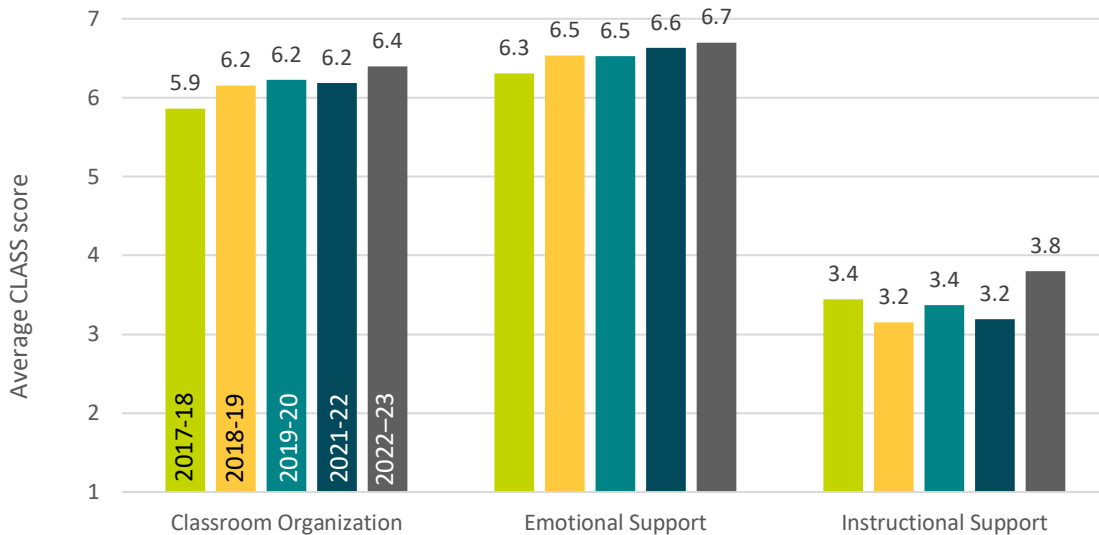
Note: CLASS observers only rated 12 SPP classrooms in 2020–21, so CLASS scores are not reported for that year. The number of classrooms in each year was: 61 (2017–18); 84 (2018–19); 74 (2019–20); 50 (2021–22); 57 (2022–23). All classrooms with CLASS ratings are included in this figure.
Source: Authors' analysis of Seattle Department of Education and Early Learning data.

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[9] More recent years of Head Start national data were not available.

RECOMMENDATIONS

SPP preschool directors, teachers, coaches, and families generally perceive the program's preschool quality to be high. This was particularly true for families, who generally indicated their child's preschool is high quality and provided a positive experience for their child and themselves. Feedback from directors, teachers, and coaches is also positive, but more critical than family feedback. We offer the following recommendations for improving SPP preschool quality:

- Consider offering additional opportunities for teachers to learn from each other, such as allowing the use of professional development hours to observe other teachers in identified "model classrooms."

- Hire additional coaches to reduce coaching caseload, allowing more frequent coaching interactions and visits.

- Ensure that anti-bias training is followed up by targeted coaching to help directors and teachers implement what they have learned in trainings.

- Offer more diverse training opportunities for both directors and teachers to reduce redundancy and to help teachers improve their abilities to address the needs of multi-language learners and students with special needs.

- Consider how to improve teachers' working conditions. Options may include funding for additional staffing, providing preschools with hiring assistance, and evaluation of whether existing teacher hiring requirements are appropriate. Further study of how to support teacher mental health is also merited.

- Evaluate options for providing additional language support to improve interactions with families. This may include translation of written materials or on-call interpretation support, particularly for less common languages.

What are the components of the SPP model and how does implementation of these components vary?

Understanding the SPP model and how it is implemented can inform program improvements and help provide context to outcome and impact findings. The primary sources of information on program components are the administrative and survey data used to complete the implementation rubric developed for this evaluation. Other sources of data used in this section include the preschool director survey, coach focus groups, and key DEEL informant interviews.

The SPP implementation rubric shows that many classrooms are implementing individual components well, but there is room for improvement in several component areas

- The SPP implementation rubric includes 11 key components. Most classrooms showed ideal implementation of seven components. However, no classrooms had ideal implementation of all items. Specifically, there were lower levels of implementation for planning time and teacher training items, particularly with respect to curriculum.

- Insufficient staffing is an impediment to teacher planning and release time for quality improvement.

- Preschools find it challenging to meet SPP's health screening and ASQ requirements.

The SPP implementation rubric includes 11 key components

The evaluation team and DEEL staff members collaboratively developed the implementation rubric to determine key components of the SPP program and thresholds for low, adequate, and ideal implementation. Education Northwest used SPP documents such as the program manual to design initial drafts of this rubric, which were then discussed extensively with DEEL and refined over the course of a year. The rubric includes 11 key components addressing enrollment, classroom and program characteristics, staff characteristics and qualifications, professional development,

coaching, and training, and health and developmental screenings. This rubric makes it possible to measure implementation of key SPP program components using existing sources of data. See table A2 for the complete rubric.

Most classrooms showed ideal implementation of seven of 10 components

The evaluation team used administrative and survey data to categorize classrooms for each rubric item except item 1, for which only overall data for all SPP programs were available (table 2). Data limitations led to some changes in the wording of rubric items and thresholds, denoted with italics in the second column of the table. In seven of the 10 components for which classroom-level data were available, most SPP classrooms fell into the ideal implementation category.

Table 2. Most classrooms showed ideal implementation of seven of 10 classroom-level components

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	**Adequate**	**Ideal (yes)**			
Enrollment							
1. Equitable access in enrollment	The enrollment process is clear and manageable to family members (further defined below).	Fewer than 50% of members of the following groups report the process is clear and manageable: 1. All family members 2. Family members of color 3. Family members who speak a language other than English at home.	50-75% of members of the following groups report the process is clear and manageable: 1. All family members 2. Family members of color 3. Family members who speak a language other than English at home.	More than 75% of members of the following groups report the process is clear and manageable: 1. All family members 2. Family members of color 3. Family members who speak a language other than English at home.			Split into three related topics. From 2022 family intake survey. 412 families (32%) responded.
	Overall satisfaction with enrollment (satisfied or very satisfied).			87% of all families 90% families of color 90% of families with preferred language other than English.			

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
	Clear information (rated 4 or 5 for required paperwork, available preschools, what to expect; took lowest percentage for categorization).		68/73/88% of all families 73/77/86% families of color 74/79/62% families with preferred language other than English.				
	Ease of enrollment (rated 4 or 5 for filling out paperwork, help with enrollment process, using parent portal).		80/84/84% of all families 79/85/85% families of color 80/80/74% families with preferred language other than English.				

Classroom & Program

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
2. Dosage	Operational requirements: operate for 180 days per year, six hours per day, four or more days per week.	Classroom does not meet requirements in both categories.	Classroom meets operational requirements but not staff/ratio requirements.	Classroom meets both sets of requirements.			Unable to measure six hours per day, four or more days per week.
	Staff/ratio requirements: maximum class size of 20 students, 1:10 adult-child ratio, and at least one lead and one assistant teacher.	9%	17%	74%	125	13	Source: Operational requirements from days open item. Staff/ratio requirements from classroom file and count of students in CHIPS.

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
3. Curriculum	Classroom implements HighScope® or Creative Curriculum® or attains a waiver; implements Soy Bilingüe if a Dual Language Initiative (DLI) classroom. Lead teacher is fully trained/certified in classroom curriculum (including Soy Bilingüe for DLI classroom).	Classroom implements HighScope® but lead teacher is not trained/certified in curriculum.	N/A	Classroom implements HighScope® and lead teacher is certified in curriculum.			No classrooms have a waiver (all are either HS or CC). No data on Soy Bilingüe. No data on Creative Curriculum training from administrative data, so Creative Curriculum classrooms are excluded from this item. HighScope certified is either yes or no, so middle category no longer applies. Source: Classroom file (curriculum variable) and teacher demos/credits file (certified in HighScope).
		83%		17%	64	74	

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
4. Classroom quality floor	Early Achievers rating of 3 or higher, or DEEL-determined equivalency for SPS (EA not available for SPS as they are license-exempt).	Program has less than 3 on EA.	N/A	Program has 3 or higher.			Many classrooms are not rated. Source: Classroom file.
		6%		94%	68	70	
Staff characteristics and qualifications							
5. Staff qualifications	SPP teachers meet educational requirements or are completing a plan to meet requirements.	Classroom lead teacher does not meet educational requirements.	Classroom lead teacher does not meet requirements but has plan for meeting them.	Classroom has lead teacher that meets educational requirements.			Source: Teacher qualifications file.
		1%	34%	65%	112	26	
6. Paid teacher planning time	Staff are compensated for 10 hours of planning time per week away from children to develop classroom plans, participate in one-on-one meetings with the DEEL coach, and	Classroom lead teacher has less than four hours of planning time per week.	Classroom lead teacher has four to nine hours of planning time per week.	Classroom lead teacher has 10 or more hours of planning time per week.			Among all teachers who responded to teacher survey, 56% in low category, 36% in adequate category, and 9% in ideal category.
		57%	34%	9%	70	68	Source: Teacher survey.

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
	complete child assessment and individual child plans.						
7. Staff training release time	Whether teachers participate in 28 days of paid release time each year.	Classroom lead teacher either strongly disagrees or disagrees with the statement "I am allowed sufficient release time to participate in training and coaching."	Classroom lead teacher feels neutral about the statement "I am allowed sufficient release time to participate in training and coaching."	Classroom lead teacher either strongly agrees or agrees with the statement "I am allowed sufficient release time to participate in training and coaching."			No data on number of paid release days.

Among all teachers who responded to teacher survey, 22% in low category, 25% in adequate category, and 53% in ideal category.

Source: Teacher survey. |
| | | 20% | 23% | 57% | 69 | 69 | |
| *Professional development, training, & coaching* | | | | | | | |
| 8. Teacher participation in DEEL basic training | Teachers have completed required trainings:

• Teaching Strategies GOLD (TSG) and inter- | Classroom lead teacher has participated in fewer than three of the required trainings. | Classroom lead teacher has participated in three required trainings. | Classroom lead teacher has participated in all four required trainings. | | | If no record of teacher participating, marked as a zero (not participating) rather than as missing. |

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	**Adequate**	**Ideal (yes)**			
	rater reliability (IRR) training. • Ages and Stages Questionnaire (ASQ) training • CLASS training	91%	9%	0%	132	6	Source: IRR training file; ASQ/CLASS/TSG training file.
9. Coaching dosage	Teachers meet at least monthly with their coach and report feeling supported by their coach.	Classroom lead teacher meets less than monthly with their coach and/or disagrees or strongly disagrees that the number of times they met was what they needed to feel supported.	Classroom lead teacher meets at least monthly or teacher reports neutrality, agrees, or strongly agrees that the number of times they met was what they needed to feel supported.	Classroom lead teacher meets at least monthly and agrees or strongly agrees that the number of times they met was what they needed to feel supported.			Only lead teacher included now. Among all teachers who responded to teacher survey, 6% in low category, 23% in adequate category, and 67% in ideal category. Source: Teacher survey.
		5%	25%	70%	63	75	

Topic	Program Component	Thresholds			Count of Non-Missing	Count of Missing	Notes & Source
		Low (no)	Adequate	Ideal (yes)			
10. Coaching (subject matter)	DEEL coaches support teachers with skills to: 1. Provide individualized supports to each child (including children with special needs, multi-language learners) 2. Implement culturally responsive and anti-bias teaching practices.	Classroom lead teacher reports coaches have not been helpful in these content areas.	Classroom lead teacher reports coaches have been helpful in one but not both content areas.	Classroom lead teacher reports coaches have been helpful in both content areas.			Only lead teacher included now. Marked as not helpful if coach did not provide support in those areas. Among all teachers who responded to teacher survey, 20% in low category, 19% in adequate category, and 62% in ideal category. Source: Teacher survey.
		22%	17%	62%	65	73	
Heath and developmental screenings							
11. Health and developmental screenings	Children participate in annual health screenings and Ages and Stages Questionnaire (ASQ).	Less than 50% of all children in classroom receive a health screening or ASQ.	Between 50–75% of children in classroom receive a health screening or ASQ.	More than 75% of children in classroom receive a health screening or ASQ.			About 76% of children overall have either health screening or ASQ. About 32% have both. Source: Child health screenings file; ASQ file.
		5%	20%	75%	134	4	

Source: Authors.

No classrooms had ideal implementation on every component—levels were lower for curriculum, planning time, and teacher training

Although data limitations made it challenging to evaluate classrooms on all implementation rubric components, data show that no classrooms had ideal implementation on each component for which they were eligible to receive a rating. This indicates areas for improvement across classrooms.

In three components—curriculum, planning time, and teacher participation in basic training—most classrooms fell into the low implementation category. Curriculum and teacher participation in training scores may be attributable to data not yet being consistently recorded for various training completions. Teacher planning time, where 57 percent of classrooms reported having less than four hours of planning time per week compared to the ideal of 10 or more hours, is an area where additional support or shifts in policy may be needed. Similarly, release time for staff training (participation in 28 days of paid release time each year) showed issues with implementation, with 20 percent of teachers disagreeing or strongly disagreeing that they are allowed sufficient release time to participate in training and coaching.

Insufficient staffing is an impediment to teacher planning and release time for quality improvement

SPP compensates preschools and teachers for up to 10 hours of planning time each week as well as up to 28 days per year of release time to attend training and coaching. DEEL informants emphasized that planning time is a key component for quality SPP implementation, and that inadequate preschool staffing is a huge impediment to providing both planning and release time to attend trainings.

> *"Planning time is key for consistent implementation, particularly to plan together."*
>
> **– Key DEEL informant**

"It's hard to get out of the classroom to attend training. Teachers want to attend training, but sites are understaffed. There is a substitute pool, but it has not always worked to get subs. A floater would be helpful to sub for teachers to attend. After work trainings can be exhausting and are not ideal."

– Key DEEL informant

According to open-ended survey responses from preschool directors, meeting the SPP requirement to provide 10 hours of weekly teacher planning time per teacher is nearly impossible due to the lack of adequate staffing.

"[Providing 10 hours of weekly planning time] is the most challenging aspect of providing SPP and is almost unrealistic in a child care setting and with the limited budget dollars we have. How are we able to support this goal without having another staff cover and there is not enough in the budget to adequately do this?"

– SPP preschool director

Providing staff with release time to attend trainings is also challenging due to staffing shortages and insufficient numbers of substitutes to cover classrooms.

"Coverage of the classroom [is an issue]. We haven't had much luck in finding outside coverage and we are short-staffed."

– SPP preschool director

One preschool director also noted that the amount of time required for training is excessive and that there are not enough different trainings available to allow teachers to engage in 28 days of annual training.

"There aren't enough trainings offered to fill this requirement. Also, the handbook states that we provide training up to 28 days per year. It is not clear [how], or even possible, to provide each teacher with 28 days per year."

– SPP preschool director

Preschools find it challenging to meet SPP's health screening and ASQ requirements

Other requirements of the SPP program include providing health screening and collecting ASQ data from family members to help inform instruction. Both have proven to be challenging requirements for preschools to meet. Rubric data show that 76 percent of children have either a health screening or ASQ on file, but just 32 percent of children have both. Preschool directors mentioned that families may have challenges with the ASQ including a lack of online availability and issues understanding the language, requirements, and scoring.

> *"Sometimes for dual language barriers, ASQs are challenging for families to understand scoring/language/requirements."*
>
> **– SPP preschool director**

> *"Please bring the ASQ form online since parents are always on their phones."*
>
> **– SPP preschool director**

RECOMMENDATIONS

- Improve data collection practices on various component items, such as teacher training participation, to better understand implementation of those items.

- Review implementation rubric results, explore root causes, and consider increasing availability of and tailoring supports to components with lower levels of implementation.

- Consider whether the 28 days of release time is based on evidence that this amount of time increases quality.
    - If not, consider revising this standard.
    - If so, evaluate whether the current professional development opportunities are numerous and diverse enough for teachers to complete the standard.
        - If not, consider expanding additional evidence-based professional development opportunities for teachers at different stages in their careers.

- Consider additional funding to help teachers access both planning and release time. Options include funding floating teachers who work across several preschools to provide staff coverage when teachers are not in the classroom.

- Consider options for collecting ASQ data online and providing training/guidance in multiple languages to help family members understand the forms.

To what extent are TSG scores related to SPP implementation and CLASS scores?

Using the implementation rubric items, the evaluation team examined how TSG scores in each domain are related to implementation rubric scores and CLASS scores, and how CLASS scores are related to implementation rubric scores.

> **There is little relationship between 2022–23 TSG scores and either implementation rubric measures or CLASS scores**
>
> - The only statistically significant relationships on the rubric were between operational requirements and the TSG physical and math domains.
>
> - CLASS scores were not statistically related to TSG scores but showed some relationships with rubric items.
>
> - Many classrooms were not included in these analyses due to missing data.

The only statistically significant relationships on the rubric were between operational requirements and the TSG physical and math domains

No other implementation rubric items had statistically significant relationships with meeting spring scale scores in any of the six TSG domains. For the physical domain, the relationship with rubric item 2 (operational requirements) was statistically significant at the .05 level, while for the math domain, the relationship was statistically significant at the .01 level. These results came from a multivariate regression analysis of the influence of rubric items on the spring TSG scale score (see appendix table A3). This analysis controlled for child demographics including gender, family income level, race/ethnicity, primary language, program alignment (e.g., Head Start, dual language classroom), and site type (whether CBO or SPS; not enough FCCs had data to be included in this analysis).

CLASS scores were not statistically related to TSG scores but showed some relationships with rubric items

No significant relationships were found between CLASS scores and TSG scale scores. The evaluation team estimated a series of regression models of the influence of scores in the three CLASS domains (emotional support, classroom organization, and instructional support) on spring scale scores in

each domain (see appendix table A4). These analyses controlled for child demographics including gender, family income level, race/ethnicity, primary language, program alignment (e.g., Head Start, dual language classroom), and site type (whether CBO or SPS; not enough FCCs had data to be included in this analysis).

In examining the correlation between CLASS scores and rubric items, the evaluation team found that all three CLASS domains were negatively correlated with rubric item 6 (teacher planning time), and the instructional support domain was negatively correlated with rubric item 2 (operational and staff-ratio requirements).[10] Rubric item 5 (staff qualifications) was positively correlated with the classroom organization and instructional support domains, and all three CLASS domains were positively correlated with rubric items 9 (coaching dosage) and 10 (coaching subject matter).

Many classrooms were not included in these analyses due to missing data

In many of these analyses, only a subset of children in SPP and classrooms had data and could be included in the analysis, as not all classrooms had CLASS scores or rubric data for all items. For example, about 570 SPP children were included in the CLASS and TSG regressions, while about 600 to 1,150 SPP children were included in TSG regressions with rubric items (depending on the rubric item data source).

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RECOMMENDATION

Continue to assess how rubric items are related to existing measures of quality, like CLASS, and seek administrative data sources rather than survey data sources for measuring implementation on the rubric.

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[10] Negative correlations mean that as one item increases, the other tends to decrease, while positive correlations mean that as one item increases, the other item tends to increase.

What is the impact of SPP participation on kindergarten attendance rates, kindergarten readiness assessment scores, and grade 3 standardized assessment scores?

Among children with similar characteristics enrolled in SPP and Washington's state-funded preschool program in 2017–18, students previously enrolled in SPP had higher kindergarten attendance rates, higher kindergarten readiness assessment scores, and higher grade 3 math and English language arts (ELA) assessment scores than students previously enrolled in state-funded preschool

- Weighted analysis can estimate the impact of SPP compared to state-funded preschool, but results are only available for students within the 2017–18 cohort due to data limitations.

- The group of students previously enrolled in SPP has different characteristics than the group of students previously enrolled in state-funded preschool, though the analysis methods balance these differences.

- Students who previously attended SPP in 2017–18 had higher attendance rates in kindergarten in 2018–19 compared to similar students who previously attended state-funded preschool.

- Among children in preschool in 2017–18, students previously in SPP had higher 2018–19 kindergarten readiness scores in each domain compared to students who previously attended state-funded preschool.

- Weighted analysis indicated positive impacts for grade 3 math and ELA assessment scores, but data limitations lesson confidence in these results.

Weighted analysis can estimate the impact of SPP compared to state-funded preschool, but results are only available for students who attended preschool in 2017–18 due to data limitations

To explore the impact of SPP participation on later child outcomes, the evaluation team conducted a weighted analysis that was limited to students who attended preschool in 2017–18. This analysis used data on both children enrolled in SPP and in Washington's state-funded preschool program (known as the Early Childhood Education and Assistance Program, or ECEAP). Most children enrolled in ECEAP are eligible to participate based on age (3 to 5 years old) and family income level

(at or below 36% of the state median income; DCYF, 2023). ECEAP programs are available throughout Washington state, including within the city of Seattle.

This analysis estimated impacts by comparing SPP children to children in state-funded preschool in a weighted model that accounts for differences in prior assessment scores and child demographic characteristics

To rigorously estimate the impact of SPP, it is necessary to have a comparison group of children with similar demographic and other characteristics who are not enrolled in SPP. Specifically, it is necessary to use student assessment scores from either before children enrolled in SPP or within the first few weeks after enrollment. State-funded preschool in Washington state uses the same preschool TSG assessment as SPP and was the only program in the Seattle metropolitan area with available TSG assessment data at the time of this evaluation.

The evaluation team used a weighting technique to conduct analyses on similar children in SPP and state-funded preschool—meaning the two groups of children had similar demographic characteristics (gender, race/ethnicity, free or reduced-price lunch [FRPL] eligibility, and English language learner status) and fall TSG scores in relevant domains from the child's preschool year. Fall TSG scores are collected within approximately the first six weeks of a child entering preschool in the fall, and thus can be used to account for child skill level prior to their preschool year. Only state-funded preschool children who attended classrooms located in or near Seattle were included in the sample.[11] All children included in the analysis had attended their preschool program for at least 120 days and were between 3.5 and 5 years of age upon entering preschool. In addition, all children included were eligible for free or reduced-price lunch, a proxy for experiencing economic disadvantage.

The weighting technique (inverse probability weighted regression analysis) permits a comparison between SPP and state-funded preschool programs among similar students. This method first estimates the probability of treatment, computing a set of inverse-probability weights based on the probability of a child enrolling in SPP. Then, the model estimates treatment-specific predicted outcomes for each child using these weights and computes the average of the treatment-specific predicted outcomes. Comparing these outcomes for SPP and state-funded preschool children

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[11] Based on feedback from the advisory committee, children who attended ECEAP classrooms located in Seattle, Kent, Sea-Tac, Tukwila, Burien, Lynnwood, Renton, Tacoma, and Bellevue were included.

provides an estimated average treatment effect (see appendix for details). Results of these comparisons allow us to determine SPP's impact compared to state-funded preschool for the group of students included in the analyses. However, there are likely various factors that influence whether families in Seattle enroll in state-funded preschool rather than SPP. Families in communities near Seattle but outside of city limits do not have access to SPP as an option. The evaluation team was not able to control for all potential factors related to preschool enrollment, and results may be due in part to these factors. In addition, the evaluation team was not able to control for differences in school district, elementary school, or community due to data limitations, and results may be at least partially related to these factors.

Data limitations led to including in the weighted analysis only children enrolled in SPP and state-funded preschool in 2017–18

For this analysis, the evaluation team used longitudinal data available from the Education Research and Data Center (ERDC) in Washington state, which includes state-funded preschool and K–12 data. DEEL data were matched with K–12 records by ERDC analysts, and these matched records were provided in a secure setting for analysis by the evaluation team.

Unfortunately, TSG data was available only for the 2017–18 preschool year. Earlier SPP cohorts did not have TSG data, and later state-funded preschool cohorts' data was either disrupted by the COVID-19 pandemic or was not yet available. In addition, for the math and ELA assessment outcomes, only grade 3 test scores from the 2021–22 school year were able to be examined for this cohort as data from the 2022–23 school year was not yet available for analysis.

This limited sample necessitates caution when considering these results, which should not be interpreted to represent the impact of SPP beyond the specific analyzed group. The SPP students included in these weighted analyses performed better than their state-funded preschool peers on the outcome measures examined. However, SPP students who were in preschool in the 2017–18 year may be different in some way from other SPP students, and the measured effects may not be caused solely by SPP participation.

Students previously enrolled in SPP tend to have different characteristics than students previously enrolled in state-funded preschool, though the analysis methods balance these differences

Among members of the 2017–18 preschool cohort who were eligible for free or reduced-price lunch (the analytic sample), the evaluation team noted that on various measurable characteristics, children previously enrolled in SPP differed from those in state-funded preschool. For example, the percentage of children identifying as Asian, Black, Latinx, or white differed by 10 percentage points or more between these groups (see appendix table A5). The weighting technique used in the

analysis mitigates these differences, balancing the characteristics between the groups (see appendix table A6). Some characteristics were more challenging to balance than others, however, and still showed small differences in the weighted sample, such as receiving English learner services (a proxy for home language other than English). In the future, expanding the sample to include other years of preschool attendance may improve this issue.

Students who previously attended SPP in 2017–18 have higher attendance rates in kindergarten in 2018–19 compared to similar students who previously attended state-funded preschool

Among children with similar characteristics who attended SPP or state-funded preschool in 2017–18, children who attended SPP had annual average kindergarten attendance rates that were 1.9 percentage points higher than similar children who attended state-funded preschool (see appendix table A7). These results were statistically significant at the .01 level and may differ among children who attended preschool in other years.

Among children in preschool in 2017–18, students previously in SPP had higher 2018–19 kindergarten readiness scores in each domain compared to students who previously attended state-funded preschool

Students previously in SPP have higher levels of kindergarten readiness, as measured by WaKIDS scores across each domain, than their counterparts in state-funded preschool (see appendix table A7). The weighted models estimated an impact of 0.467 standard deviations for the social-emotional domain, 0.426 for physical, 0.463 for language, 0.533 for literacy, 0.563 for cognitive, and 0.833 for math (all results statistically significant at the .01 level). These effects are considered medium in size for social-emotional, physical, language, literacy, and cognitive domains and large for the math domain.

Translating these effect sizes into percentiles, these impacts suggest that participating in SPP can be expected to improve WaKIDS performance: specifically, a student at the 50th percentile of the assessment would be expected to move from the 50th percentile to the 66th–79th percentile if they had participated in SPP, depending on the domain (figure 31).

Figure 31. Among children who attended SPP and state-funded preschool in 2017–18 preschool, SPP children performed better in each WaKIDS kindergarten readiness domain in 2018–19
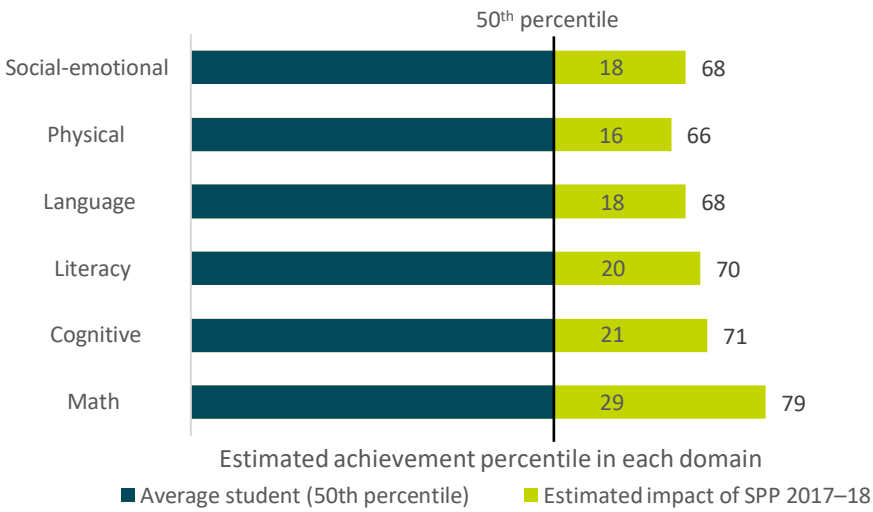
Source: Authors' analysis of data from Washington's Education Research and Data Center.

Weighted analysis indicated positive impacts for grade 3 math and English language arts assessment scores, but data limitations lessen confidence in these results

The evaluation team also estimated the impact of SPP on grade 3 math and ELA assessment scores. These scores were Smarter Balanced assessment (SBA) scores from grade 3 students in the 2021–22 school year who participated in SPP or state-funded preschool in the 2017–18 school year. Results indicate that SPP participation in 2017–18 had a significant and positive impact on grade 3 math and ELA assessment scores (0.648 standard deviations in math and 0.682 in ELA; see appendix table A7). These results translate to a shift from the 50th percentile to the 74th in math and 75th in ELA. However, these results should be interpreted with caution, as the evaluation team was not able to control for differences in schools, which may at least partially account for these results.

RECOMMENDATION

Conduct weighted analyses on additional years of data as they become available to understand how results may differ among other cohorts of students.

Has the design and implementation of SPP had any unintended consequences?

This final evaluation question explores the unintended consequences of SPP for families, educators, and Seattle's early learning system. The analysis draws from a review of data on early care availability in King County and key DEEL informant interviews.

> **SPP policies and implementation may have unintended consequences on the supply of infant/toddler care**
>
> It is unclear if SPP has had unintended impacts on the supply of infant/toddler care in Seattle.

SPP policies and implementation may have unintended consequences on the supply of infant/toddler care

Introducing and expanding a preschool program like SPP may have impacts on the supply of early care in the local child care market. These impacts are challenging to tease out and merit further study. One question is whether SPP may have created new spaces (sometimes called "slots") for preschool students, thus increasing the supply of preschool care in Seattle, or if the program may instead have provided funding to existing slots and classrooms while leaving the overall supply of preschool care unchanged.

Some key DEEL informants pondered whether the introduction of SPP led to a reduction in infant/toddler care spaces. Preschool programs tend to be more lucrative compared to infant/toddler programs due to a higher required teacher-to child-ratio and higher safety requirements for younger ages. For example, for center-based care in Washington, the required ratio is 1-to-4 for children under 12 months old; 1-to-7 for children between 12 and 29 months; and 1-to-10 for children aged 30 months to 5 years (Child Care Aware of WA, 2019). Lower staff-to-child ratios require additional staff members and increase costs per child for infant/toddler care.

Required group sizes must also be smaller for younger age ranges, and family child care homes have similar requirements to center-based care. These licensing requirements incentivize providers to prioritize preschool-aged children. Combining the licensing framework with public funding for preschool-age children may further incentivize preschool-age care and disincentivize infant/toddler care (see, for example, research by Sipple, McCabe, and Casto [2020] for rural New York state and Brown [2018] for New York City).

Anecdotal comments suggest that SPP may have led indirectly to a reduction in infant/toddler care, as a remark from a key DEEL informant below demonstrates.

> *"We have seen FCC sites stop taking infants because it's more lucrative to take in preschool kids only. We've also seen that among CBOs with infants and toddlers. We sometimes hear that SPP has had a negative impact on infant and toddler care. There are more public dollars and resources for teachers through SPP which provide more steady income."*
>
> **– Key DEEL informant**

The number of children under 5 years old in Seattle and King County decreased from 2018 to 2022 while the number of child care spaces increased

To investigate whether SPP may have reduced infant/toddler care in Seattle, we looked at slot data published annually by Child Care Aware of Washington for King County and population data from the U.S. Census. Overall, the population of Seattle grew 0.58 percent from 744,949 in 2018 to 749,267 in 2022 (U.S. Census Bureau, 2019a; U.S. Census Bureau, 2023a). As the population grew, however, the population under 5 years old decreased by 28 percent, from 38,323 in 2018 to 27,419 in 2022—indicating a decreasing demand for early care during the period when SPP was expanding in Seattle. Trends were similar in King County, with the overall population growing and the number of children under 5 years old shrinking (U.S. Census Bureau, 2019b; U.S. Census Bureau, 2023b).

During this time period, publicly available data from Child Care Aware of Washington shows an increase in the number of care spaces and the number of providers. However, there are still fewer providers in Washington compared to 12 years ago—part of a trend towards larger centers and away from smaller providers, including fewer family child care options (Child Care Aware of WA, 2023).

> *"In King County, the number of child care providers has increased from 1,991 with capacity for 65,356 children in 2018, to 2,348 providers with capacity for 77,787 children in June of 2023."*
>
> **– Child Care Aware of Washington (2023)**

Parts of Seattle and King County have scarce child care—particularly for infants and toddlers

Decreasing numbers of children and increasing numbers of spaces do not indicate that all children who need care are able to access care—there may be shortfalls in particular geographic areas and/or age ranges. In King County, gaps in licensed child care availability meant only about half the

children who needed care (defined as all caregivers in the workforce) in 2020 were able to get it (Washington STEM, 2021). One source of information shows that infant and toddler care have shortfalls, while preschool care does not (Washington STEM, 2021). Other available published analyses suggest that at least some areas of Seattle and King County may not have enough overall child care spaces to meet demand, with a Washington State Department of Commerce and Department of Children, Youth, and Families (DCYF) study showing that as of April 2020, an estimated 20 percent of King County families lived in a child care desert—often defined as a community with more than three children for each care slot (WA Department of Commerce and DCYF, 2021). Corroborating this is an **interactive map** published by DCYF showing multiple ZIP codes in King County as extreme child care access deserts (DCYF, 2021) and a **national map** showing areas of King County and Seattle with scarce child care supply (Center for American Progress, 2020).

RECOMMENDATION

Consider offering incentives to providers to add or preserve infant and toddler slots, given the shortfall in availability in those age ranges and the possibility that funding SPP slots may reduce infant/toddler availability. One example of an incentive program like this is in Multnomah County, Oregon, where the Preschool for All initiative plans to offer an Infant and Toddler Slot Preservation Fund with "… financial incentives for providers offering infant and toddler care that allow for wage increases for child care staff working with 0–2 year olds" (Multnomah County, 2020).

Recommendations

The recommendations in this section are compiled from those provided throughout the report and are organized by theme. These recommendations are intended to inform future improvements to the SPP program.

Communicating with families

- Add more information about each SPP preschool to the enrollment portal—including preschool hours, school calendar, extended care options and care costs—to inform family enrollment decisions.

- Set and communicate to preschools the minimum expectations for family-teacher conferences. These might include the number of conferences per year and what evidence of learning should be presented.

- Ensure that coaches are prepared to support SPP director and teacher communication with family members around child assessment results and other sources of information on learning and progress.

Targeted coaching and training on race/ethnicity, language, TSG, and anti-bias

- Although high proportions of teachers report confidence in addressing racism, about one in five teachers did not agree that their preschool provides adequate support to improve their anti-bias and anti-racist teaching practices, indicating room for improvement. DEEL could explore ways that coaches and providers could help teachers improve such practices.

- Ensure SPP teachers are trained in TSG administration, TSG inter-rater reliability, and anti-bias education to minimize bias in TSG scores. These trainings are required in SPP, but it can be challenging to gather data on whether teachers have completed these trainings.

- Encourage partner school districts to require WaKIDS training, inter-rater reliability training, and anti-bias training for kindergarten teachers.

- Encourage use of multiple measures of TSG data—such as using automated reports on growth metrics and on meeting widely held expectations—among coaches, directors, and teachers to help them understand a fuller picture of children's development.

- DEEL could ensure that preschools are made more aware of funding opportunities to diversify the materials in the classroom environment and provide more language support to families as they enroll and complete paperwork.

Information about kindergarten

- Develop and disseminate information to SPP preschools on what it means for children to be kindergarten ready, including social-emotional, executive function, and academic skills. Encourage directors to share this information with SPP teachers as well. Translate this information into multiple languages to ensure it is accessible to all families and teachers.

- Develop and disseminate other resources around kindergarten readiness to SPP preschools. These resources could include guidance on how to conduct a kindergarten information event for family members and what type of data on each child's kindergarten readiness should be presented at family-teacher conferences.

- Implement a system for transmitting SPP child-level preschool data to the kindergarten teachers at the SPS schools where each child enrolls. This would help kindergarten teachers understand their incoming students' knowledge, skills, and needs so they can place the children in the most appropriate class and plan for necessary supports.

Quality improvement

- Consider offering additional opportunities for teachers to learn from each other, such as allowing the use of professional development hours to observe other teachers in identified "model classrooms."

- Hire additional coaches to reduce coaching caseload, allowing more frequent coaching interactions and visits.

- Ensure that anti-bias training is followed up by targeted coaching to help directors and teachers implement what they have learned in trainings.

- Offer more diverse training opportunities for both directors and teachers to reduce any redundancy and to help teachers improve their abilities to address the needs of multi-language learners and students with special needs and/or challenging behaviors.

- Consider how to improve teachers' working conditions. Options may include fundings for additional staffing, providing preschools with hiring assistance, and evaluation of whether existing teacher hiring requirements are appropriate. Further study of how to support teacher mental health is also merited.

- Evaluate options for providing additional language support to improve interactions with families. This may include translation of written materials or on-call interpretation support, particularly for less common languages.

Reviewing the SPP model

- Examine and enhance supports to groups with opportunity gaps and explore potential root causes of gaps to help determine appropriate supports.

- Review implementation rubric results, explore root causes, and consider increasing availability of and tailoring supports to components with lower levels of implementation.

- Continue to assess how rubric items are related to existing measures of quality, like CLASS, and seek administrative data sources rather than survey data sources for measuring implementation on the rubric.

- Consider whether the 28 days of release time is based on evidence that this amount of time increases quality.
    - If not, consider revising this standard.
    - If so, evaluate whether the current professional development opportunities are numerous and diverse enough for teachers to complete the standard.
        - If not, consider expanding additional evidence-based professional development opportunities for teachers at different stages in their careers.

- Consider additional funding to help teachers access both planning and release time. Options include funding floating teachers who work across several preschools to provide staff coverage when teachers are not in the classroom.

- Consider options for collecting ASQ data online. Translate the ASQ into multiple languages to facilitate family member completion of this information.

Further study and data improvements

- Conduct weighted analyses on additional years of data as they become available to understand how results may differ among other cohorts of students.

- Improve data collection practices on various component items, such as teacher training participation, to better understand implementation on those items.

- Begin collecting data on the IEP status of SPP children in preschool to inform decisions on how to support children with IEPs.

- Conduct further study of the SPP Plus classroom model to determine what additional trainings, staffing, or supports may help to increase support for students with special needs and/or challenging behaviors.

- Continue to monitor data on opportunity gaps using TSG data and WaKIDS data to understand how different cohorts of children are performing, particularly as future cohorts of children may not have been as affected by the COVID-19 pandemic.

Mitigating unintended consequences

- Consider offering incentives to providers to add or preserve infant and toddler slots, given the shortfall in availability in those age ranges and the possibility that funding SPP slots may reduce infant/toddler care availability. One example of an incentive program like this is in Multnomah County, Oregon, where the Preschool for All initiative plans to offer an Infant and Toddler Slot Preservation Fund with "… financial incentives for providers offering infant and toddler care that allow for wage increases for child care staff working with 0–2 year olds" (Multnomah County, 2020).

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Appendix

Data and methods detail

This appendix section provides detail about each of the data collection efforts and analysis methods used in this evaluation.

Advisory committee focus group

Thirteen members of the advisory committee participated in a focus group in March 2022 during a previously scheduled committee meeting. All advisory committee members were invited to participate. Participants were divided into two groups to facilitate more active discussion. This focus group was scheduled early in the evaluation timeline to help inform the evaluation design plan, which was finalized in May 2022. Discussion focused primarily on goals, equity, and culturally responsive practice within SPP, including the following topics:

- Definitions of equity and culturally responsive practice

- SPP student/teacher relationships and interactions

- SPP outreach to families

- SPP curriculum

- SPP assessment

- SPP teaching and instruction

SPP teacher focus groups

Education Northwest facilitated four focus groups with SPP teachers. We incentivized participation by offering $50 gift cards to each participant and offered language interpretation services to all potential participants, although no teachers identified the need for these interpretation services.

DEEL led recruitment for the first teacher focus group in April 2022, identifying six teachers willing to participate. The goal was to recruit one or more teachers from each type of site (CBO, SPS, and FCC). After initial recruitment efforts from DEEL, Education Northwest emailed participants to provide additional information about the focus group, to request confirmation of attendance, and to remind participants about the meeting. Five SPP teachers, at least one representing each type of site (CBO, SPS, and FCC), participated. Like the advisory committee focus group completed in March 2022, the purpose of this focus group was to help guide the evaluation plan. Discussion focused on

many of the same topics as the advisory committee focus group, including goals, equity, and culturally responsive practices, while the teacher focus group also discussed classroom quality.

Education Northwest conducted three additional teacher focus groups in January 2023. These were designed to collect input from SPP teachers on key topics related to the evaluation questions and teacher participants were organized into focus group by site type: teachers from CBOs, SPS sites, and FCCs each attended distinct focus groups. DEEL informed SPP preschool directors that Education Northwest might be reaching out to their teachers to invite them to participate in one of these focus groups.

Education Northwest staff members used existing SPP teacher data to identify a sample of focus group participants. This original sample included 12 teachers from each site type who were representative of SPP teachers at that site type based on the following characteristics: race/ethnicity, primary language, gender, whether new to teaching with SPP, lead or assistant, meeting or exceeding teacher qualifications, curriculum used, dual language immersion classroom status, and SPP Plus classroom status.[12] Education Northwest deliberately oversampled teachers who identified as a member of a racial/ethnic group with fewer teachers represented in the data (Alaska Native/American Indian, Native Hawaiian/Pacific Islander, Middle Eastern/North African, and two or more races) in order to ensure representation in the sample from people identifying as a member of these groups.

Initial email outreach from Education Northwest included inquiry about availability. Once several participants responded that a particular date worked, we then confirmed the focus group dates and times and continued outreach to other invitees who had not yet responded. If an invitee did not respond after multiple attempts, Education Northwest added participants with similar characteristics and contacted these new invitees. Over the course of nearly two months, Education Northwest contacted all potential participants two to four times. This included outreach to 17 SPS teachers, 21 CBO teachers, and 28 FCC teachers.

A total of 15 SPP teachers confirmed that they planned to attend one of the focus groups. Education Northwest sent out multiple reminders as the focus groups approached. In late January 2023, a total of nine teachers participated in these evening focus groups: four from CBOs, two from SPS sites, and three from FCCs. Topics covered in these January 2023 teacher focus groups included:

- Goals
- Perceptions of classroom and program quality

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[12] Meeting or exceeding teacher qualifications and SPP Plus classroom status do not apply to FCCs.

- Assessing kindergarten readiness

- Equity and culturally responsive teaching practices

- Recommendations for improving preschool in Seattle

SPS kindergarten teacher focus group

To recruit SPS kindergarten teachers, Education Northwest submitted an application for research with SPS. We then analyzed SPP and SPS data to select a sample of SPS elementary schools that tend to enroll high percentages of SPP students. We selected the top 12 schools by percentage of kindergarten students in 2021–22 who attended SPP the prior year (2020–21). In all 12 selected schools, 20–46 percent of the kindergarten class had attended SPP, and the total size of the kindergarten student body at each school ranged from 37 to 89. From these 12 schools, eight principals provided approval to contact their kindergarten teachers. We then contacted 23 kindergarten teachers in these schools to ask them to participate, incentivized by a $50 gift card. Three SPS teachers participated in the SPS focus group.

The focus group with SPS kindergarten teachers covered the following topics:

- Information about incoming kindergarten students

- Classroom and school kindergarten transition practices

- Definition of and assessment of kindergarten readiness

- Recommendations for preschools to improve kindergarten readiness

Coach focus group

The purpose of the SPP coach focus group was to learn more about the coaching process, support for coaches, and how coaching could be improved. In collaboration with DEEL, Education Northwest decided to limit the focus group to coaches with at least one year of SPP coaching experience. Education Northwest emailed the coaches directly with an invitation to participate. Six coaches attended the focus group in December 2022. Topics covered in the coach focus group included:

- Goals

- Coaching practices (approach, curriculum, assessment, and equitable and culturally responsive coaching)

- Perceptions of classroom and program quality

- Training and supports for SPP coaches

- Recommendations for improving SPP and coaching services

Family focus groups/interviews

To recruit SPP families to participate in focus groups, DEEL began with outreach to 52 Spanish-speaking families, 22 Somali-speaking families, and 622 families who listed another primary home language, including English. According to DEEL, these families included 502 families with children at CBOs, 156 at SPS preschools, and 38 at FCCs.

Education Northwest developed a brief online survey for DEEL to use during outreach. The survey asked family members for contact information, language interpretation needs, availability to participate on the selected focus group dates, and the name of the SPP preschool where their child is enrolled. Eighty-one family members indicated initial interest in participating in a family focus group, although not all were available at the selected times.

Twenty-six family members with children enrolled in SPP participated in focus groups or interviews in the spring of 2023. The evaluation team conducted three focus groups and three interviews with family members to gather qualitative data on the impact of SPP from the family perspective. Family focus group participants included 18 family members with children at CBOs, two with children at FCCs, and six with children at SPS sites. Three of the family members participated in a Spanish-speaking focus group (or interview).[13] Nineteen of the 26 family focus group participants were people of color. (The interviews occurred when family members were unable to join the scheduled focus group time.)

Topics of the family focus groups and interviews included:

- Outreach and enrollment
- SPP benefits and impact
- Kindergarten readiness
- Preschool quality and family engagement

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[13] There was insufficient response from Somali-speaking families to conduct a focus group in Somali.

Key DEEL informant (DEEL staff member) focus groups

In April and May 2023, Education Northwest conducted three small focus groups of two to three key DEEL informants each to explore questions around SPP implementation and components. We identified the key informants in collaboration with our DEEL contacts as DEEL staff members who have important knowledge and insight about SPP. The topics of each focus group were targeted to the individuals participating and included:

- SPP policy, fidelity, high-level training and professional development, SPP Plus, and SPP site selection

- The implementation of coaching and training, including details about Dual Language Instruction, SPP Plus, and other settings in practice

- Outreach, SPP site selection, and child enrollment

Surveys

During spring 2023, DEEL administered surveys to SPP teachers and to families with one or more children enrolled in SPP. Prior to survey administration, Education Northwest and DEEL worked together to add to or modify the survey questions from past SPP teacher and family surveys to obtain input relevant to the evaluation.

A total of 1,056 SPP families (51%) responded to the survey. The family survey was available in the following languages: English, Spanish, Vietnamese, Simplified Chinese, Traditional Chinese, Amharic, Somali, Tigrinya, and Oromo. Family survey respondents represented a wide variety of family characteristics, although respondent demographics were less diverse than SPP child demographics. For example, 32 percent of respondents spoke a language other than English at home, compared to 39 percent of SPP children in 2022–23, and 14 percent of respondents identified as Black or African American compared to 28 percent of SPP children in 2022–23. Survey respondent demographics are presented below:

Race/ethnicity

- 21 percent Asian/Asian American
- 20 percent multiracial
- 14 percent Black/African American
- 9 percent Latinx
- 33 percent white
- 3 percent other race/ethnicities

Income

- 26 percent earn less than $35,000
- 36 percent earn $35,000–$99,999
- 39 percent earn $100,000 or more

Home language

- 32 percent speak at least one language other than English at home

The SPP teacher survey was offered in English, Spanish, Vietnamese, Chinese (Mandarin), Somali, and Oromo. A total of 139 SPP teachers (47%) responded. Among responding SPP teachers, 25 percent speak a primary language other than English at home (with 58% reporting only English and 17% not responding to that question). The overwhelming majority of respondents were female (87%). More than two-thirds (68%) of respondents were lead or co-lead teachers and 61 percent were CBO teachers.[14] More than a fifth (21%) reported teaching in SPP inclusion classrooms. As a group, respondents were racially and ethnically diverse, representing a variety of backgrounds, although respondent demographics were less diverse than the overall group of SPP teachers. For example, 19 percent of respondents identified as Black or African American compared to 31 percent of teachers overall in 2022–23, and only 25 percent of respondents said they speak a language other than English compared to 43 percent of SPP teachers overall in 2022–23. Respondents identified as:

- 22 percent Asian/Asian American
- 19 percent Black/African American
- 12 percent Latinx
- 36 percent white
- 5 percent American Indian/Alaska Native, Native Hawaiian/Pacific Islander, North African/Middle Eastern, Asian Indian, Afghan, Multiracial, and "other."
- 5 percent unknown/not reported

Finally, Education Northwest designed and administered an online survey to 60 CBO directors over the course of six weeks. Directors were informed of the survey during a scheduled virtual CBO preschool director meeting. Thirty-five CBO directors (58%) responded to at least some of the survey questions, although only 18 directors (30%) completed the survey. Sixty-five percent of directors who responded to the survey were people of color and 28 percent speak a language other than English at home.

Quantitative methods

Descriptive methods

The evaluation team used administrative data provided by DEEL (including child enrollment, staff, program, and survey data) to understand characteristics of SPP children and classrooms, calculating

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[14] 31 percent of the teachers were SPS teachers, while the remainder were FCC teachers or did not report their site.

percentages, counts, and averages to describe the data. For example, the team calculated the percentages of children in each year of SPP by racial/ethnic group to understand patterns in enrollment over time (table A1).

Table A1. Race/ethnicity of children enrolled in SPP changed slightly from 2015–16 to 2022–23

	2015 −16	2016 −17	2017 −18	2018 −19	2019 −20	2020 −21	2021 −22	2022− 23
American Indian/Alaska Native	.	.	.	1%	.	.	.	.
Native Hawaiian/other Pacific Islander	.	.	.	1%	.	.	1%	.
North African/Middle Eastern	.	.	.	1%	1%	1%	1%	1%
Asian	17%	18%	24%	17%	20%	19%	17%	17%
Black	28%	25%	28%	28%	28%	29%	30%	28%
Latinx	12%	16%	12%	14%	13%	15%	15%	15%
Two or more races	9%	15%	10%	14%	14%	13%	13%	13%
Unknown	.	.	.	4%	2%	1%	.	.
White	25%	20%	20%	20%	22%	22%	23%	25%
Total number	269	612	970	1,386	1,751	1,660	1,953	2,405

Note: Results for certain years for American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, North African/Middle Eastern, and unknown categories are not shown due to small numbers of children.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

CLASS, TSG, and implementation rubric regression analysis methods

The evaluation team used DEEL administrative data to explore the relationships between a) implementation rubric items and CLASS scores; b) implementation rubric items and TSG scores; and c) CLASS scores and TSG scores. To understand the relationship between rubric items and CLASS scores, the evaluation team took an exploratory approach and looked at pairwise correlations between rubric items and each CLASS domain. To understand the relationships between rubric items or CLASS scores with TSG scores, the team used multivariate regression analysis. These descriptive regression analyses were not designed to imply causality, but rather to understand the relationships between different data elements.

Inverse probability weighted regression analysis

This analysis used data from ERDC to estimate the impact of SPP compared to a group of children previously enrolled in state-funded preschool. In this analysis, the evaluation team sought to follow rigorous What Works Clearinghouse guidelines for quasi-experimental designs where possible. The team first tested a variety of matching and weighting techniques and calculated descriptive statistics from the data. After consulting with several methodologists, the team used inverse probability weighted regression analysis for the results presented in this report. This technique preserves the full analytic sample through applying weights to each observation, rather than dropping observations that do not find a match, as can occur in propensity score matching.

Inverse probability weighting is a two-step process that first estimates the probability of an observation receiving the treatment—in this case, the probability that a child would enroll in SPP. Inverse probability weights are estimated from this first step; when applied to the second step, they create groups that look similar on the characteristics included in the first step. The second step estimates the impact of the treatment on the outcome while incorporating the weights—in this case, estimating the impact of SPP on kindergarten attendance, WaKIDS scores, and grade 3 math and ELA scores.

The team used Stata's "teffects ipwra" command to estimate the impact of SPP and checked balance using "tebalance summarize". In addition, the team examined results from a variety of different matching and weighting approaches and results were similar regardless of approach. Models were estimated for each outcome using two equations:

$$\text{Equation (1)} \qquad \text{logit}(T_i) = \gamma + \beta X_i + \mu_i$$

Equation 1 estimates the predicted probability of a student receiving treatment (T), in this case being in SPP, based on student-level covariates (β)—this is the first step in the inverse probability weighting process. These student-level covariates include student-level indicators for female; Asian, Black, Latinx, and white race/ethnicity; and receiving English learner services (a proxy for home language), along with standardized scores from fall TSG in specific domains related to the outcome. Analytic samples were restricted to only students eligible for free or reduced-price lunch and the specific cohort with available data (preschool enrollment in 2017–18).

$$\text{Equation (2)} \qquad Y_i = \alpha + \beta T_i + \delta X_i + \mu_i$$

This equation estimates the relationship between the outcome (Y) and the treatment variable (T). In this case, the treatment variable indicates if a student participated in SPP for the 2017–2018 school year. Student-level covariates included in equation 1 are also included in this model, along with weights and additional student-level covariates of having an IEP and the total number of days a

child attended preschool (all children in the analytic sample had attended preschool for at least 120 days).

After estimating these equations to generate the impact of SPP on the outcome, the team examined balance statistics to ensure the weighting technique had established baseline equivalence between the treatment (SPP) and comparison (state-funded preschool) groups. Specifically, the team looked at whether the standardized mean difference after weighting was close to zero and the variance close to 1. For all models, most characteristics were balanced after weighting; however, some characteristics had standardized mean differences that were approaching or exceeding 0.2, indicating that the weighting was not fully able to account for differences in that characteristic. This issue may be ameliorated with more years of data present.

Supporting findings

This section includes additional tables and figures supporting the findings in the main body of the report.

What are the perceptions of how SPP impacts children and families and specifically children and families of color?

Figure A1. Percentages of SPP family members who are satisfied or very satisfied with each component of the SPP experience, by site type, 2022–23
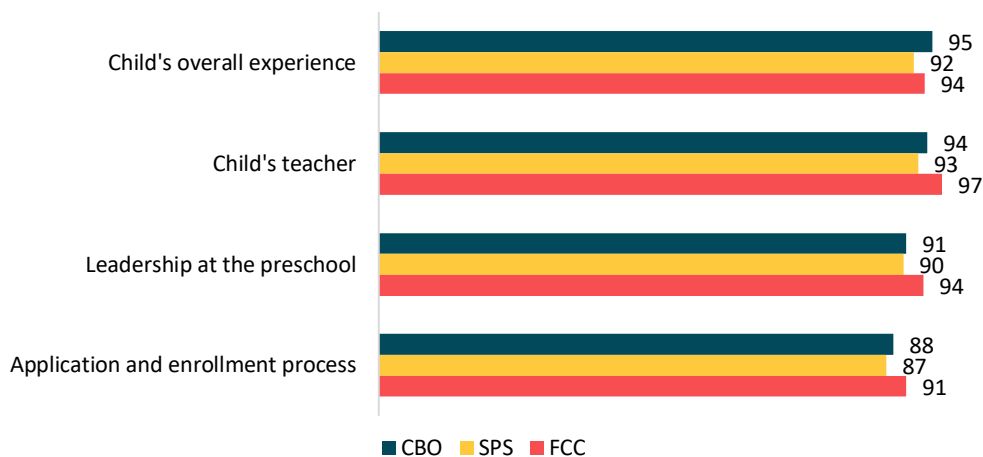
Note: The number of family members responding to these survey questions was 714 for families with a child enrolled in a CBO, 272 for families with a child enrolled in an SPS site, and 32 for families with a child enrolled in an FCC. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

Figure A2. Percentages of SPP family members who noticed positive changes in their child since enrolling in SPP, by area of change and site type, 2022–23
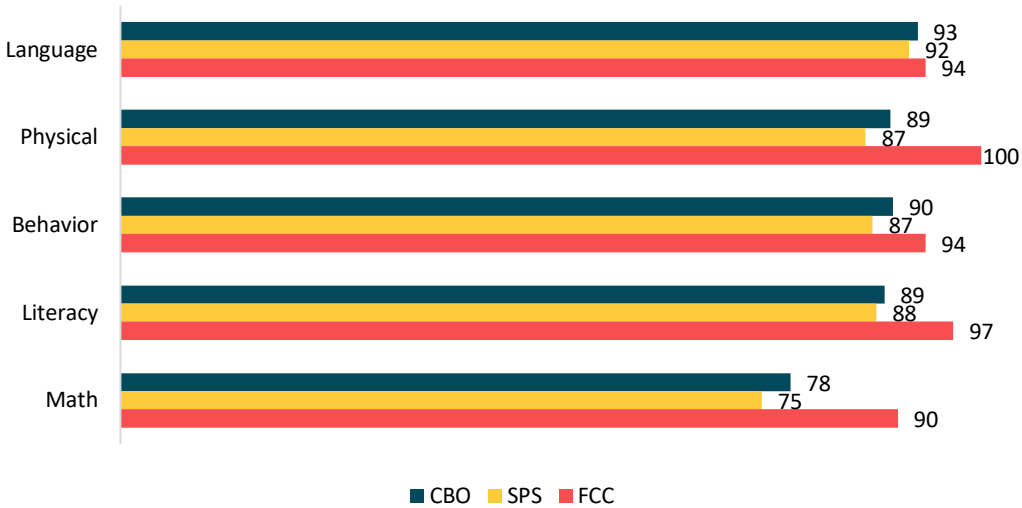
Note: The number of family members responding to these survey questions ranged from 700 to 704 for families with a child enrolled in a CBO, 261 to 263 for families with a child enrolled in an SPS site, and 31 for families with a child enrolled in an FCC. Overall, 51% of families responded to the survey.

Source: Authors' analysis of 2022-23 SPP family survey data.

How have race-based opportunity gaps among SPP children—as detected in TSG and WaKIDS assessments—changed over time?

Figure A3. Percentages of SPP children who met TSG growth targets in each domain, for Latinx, white, and SPP children overall, 2018–19
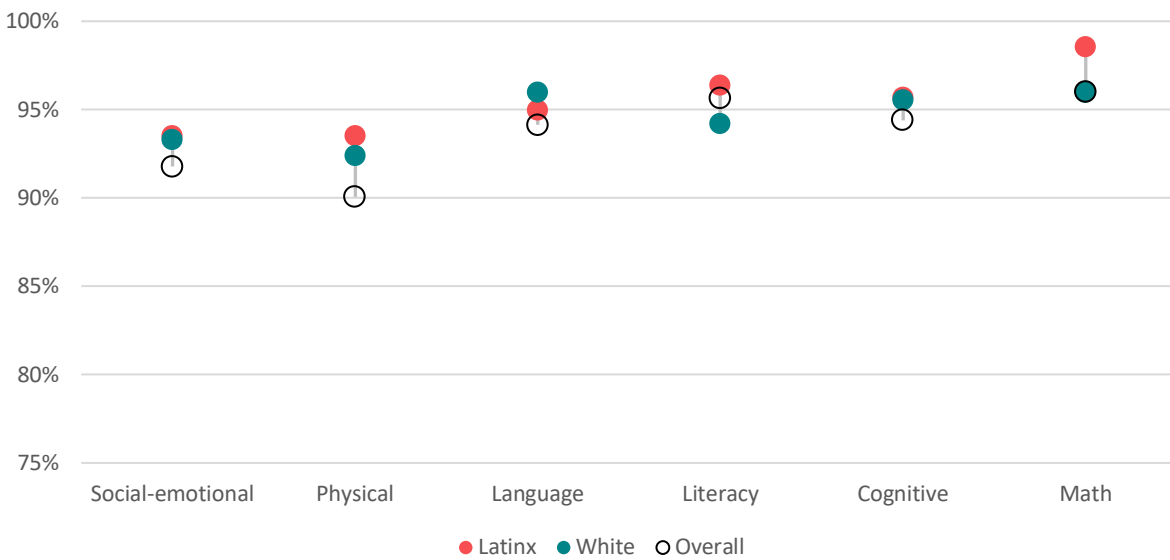
Note: The number of overall children with data in each domain, from left to right, is: 1,058; 1,056; 1,057; 1,055; 1,054; 1,054. The number of Latinx children ranges from 138 to 139. The number of white children is 224 in each domain.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A4. Percentages of SPP children who met TSG growth targets in each domain, for Asian, white, and SPP children overall, 2018–19
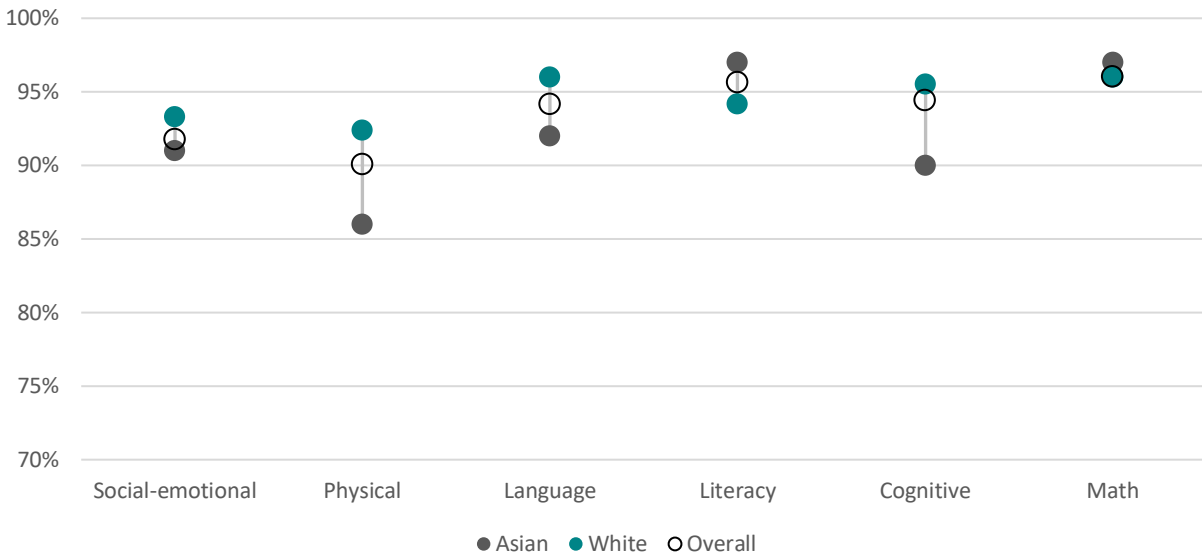
Note: The number of overall children with data in each domain, from left to right, is: 1,058; 1,056; 1,057; 1,055; 1,054; 1,054. The number of Asian children ranges from 194 to 195. The number of white children is 224 in each domain.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A5. Percentages of SPP children who met TSG growth targets in each domain, for Black, white, and SPP children overall, 2018–19
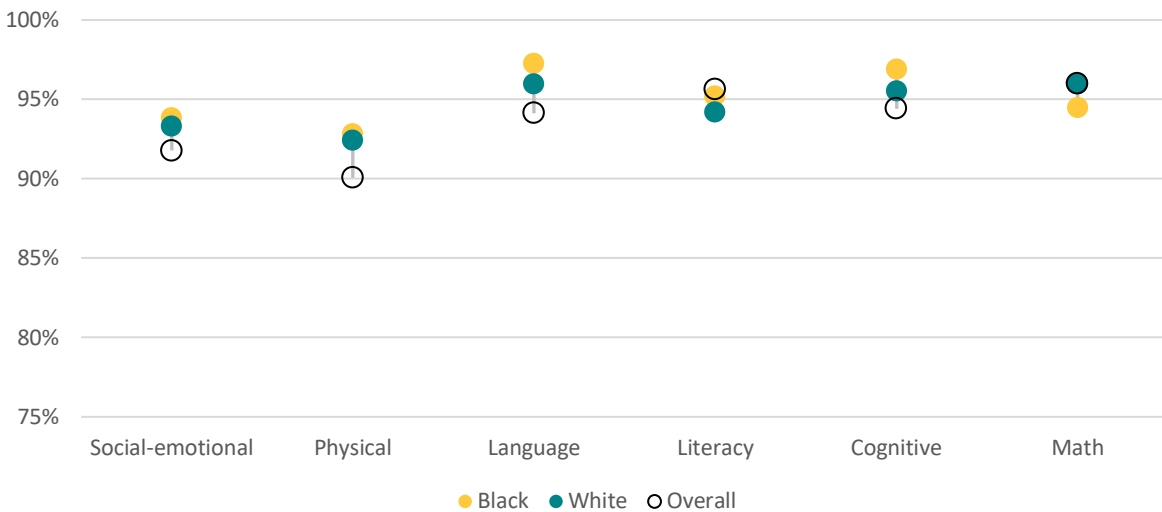
Note: The number of overall children with data in each domain, from left to right, is: 1,058; 1,056; 1,057; 1,055; 1,054; 1,054. The number of Black children ranges from 291 to 293. The number of white children is 224 in each domain.

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A6. Percentages of SPP children who met widely held expectations benchmark in all six domains of TSG in 2018–19 and 2022–23, for Latinx, white, and SPP children overall
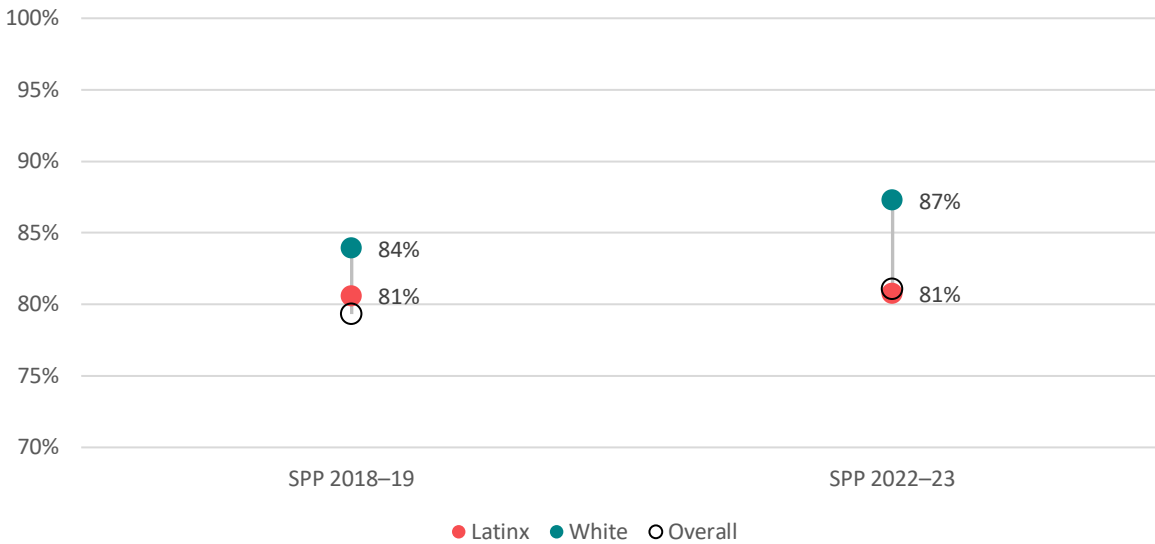
Note: The number of overall children: 1,238 (2018–19); 1,772 (2022–23); Latinx children: 170 (2018–19); 265 (2022–23); white children: 255 (2018–19); 448 (2022–23).
Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A7. Percentages of SPP children who met widely held expectations benchmark in all six domains of TSG in 2018–19 and 2022–23, for Asian, white, and SPP children overall
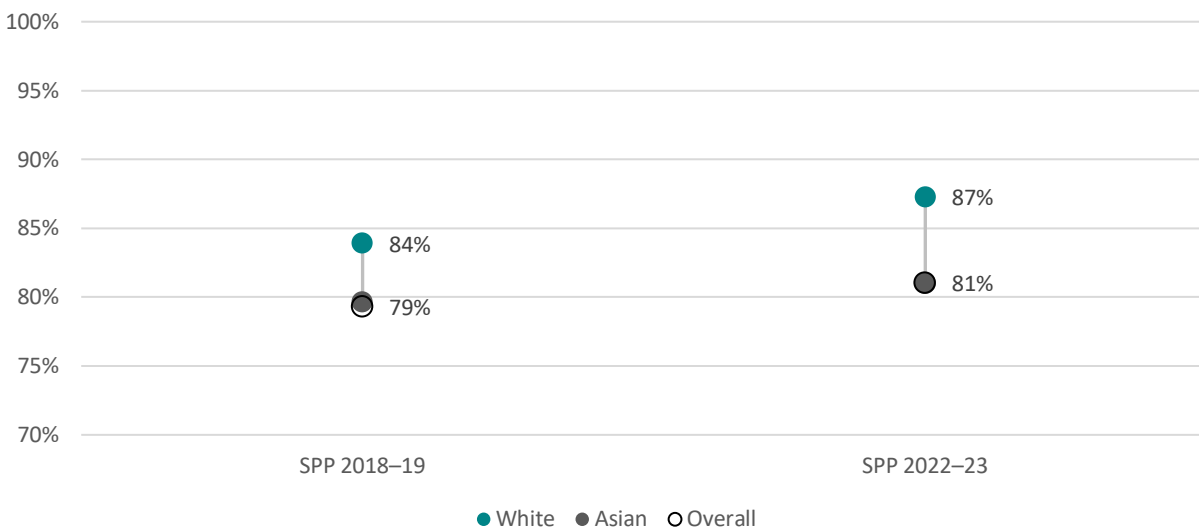
Note: The number of overall children: 1,238 (2018–19); 1,772 (2022–23); Asian children: 221 (2018–19); 305 (2022–23); white children: 255 (2018–19); 448 (2022–23).
Source: Authors' analysis of Seattle Department of Education and Early Learning data.

Figure A8. Percentages of SPP children who met widely held expectations benchmark in all six domains of TSG in 2018–19 and 2022–23, for Black, white, and SPP children overall
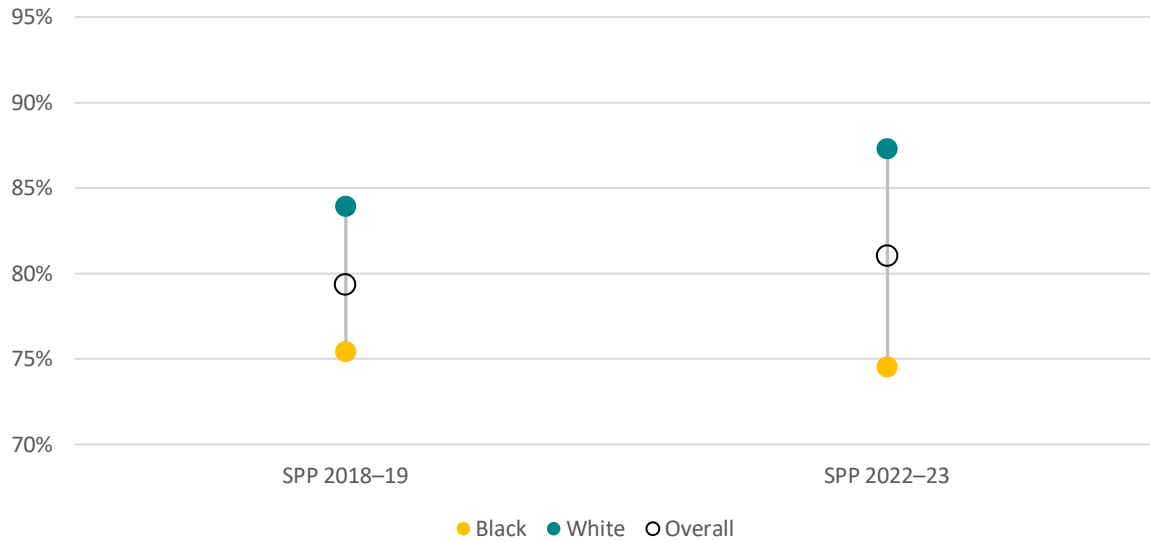
Note: The number of overall children: 1,238 (2018–19); 1,772 (2022–23); Black children: 342 (2018–19); 475 (2022–23); white children: 255 (2018–19); 448 (2022–23).

Source: Authors' analysis of Seattle Department of Education and Early Learning data.

What are the components of the SPP model and how does implementation of these components vary?

Table A2. SPP implementation rubric

Topic	Program Component	Thresholds		
		Low (no)	**Adequate**	**Ideal (yes)**
Enrollment				
1. Equitable access in enrollment	The process for enrolling in SPP is clear and manageable to family members	Fewer than 50% of members of these groups report the process is clear and manageable: 3. All family members 4. Family members of color 5. Family members who speak a language other than English at home	50–75% of members of these groups report the process is clear and manageable: 1. All family members 2. Family members of color 3. Family members who speak a language other than English at home	More than 75% of members of these groups report the process is clear and manageable: 1. All family members 2. Family members of color 3. Family members who speak a language other than English at home
Classroom & Program				
2. Dosage	Operational requirements: operate for 180 days per year, six hours per day, four or more days per week Staff/ratio requirements: maximum class size of 20 students, 1:10 adult-child ratio, and at least one lead and one assistant teacher	Classroom does not meet requirements in both categories	Classroom meets operation category requirements and not teacher category requirements	Classroom meets all requirements

Topic	Program Component	Thresholds		
		Low (no)	Adequate	Ideal (yes)
3. Curriculum	Classroom implements HighScope® or Creative Curriculum® for Preschool or attains a waiver; implements Soy Bilingüe if a Dual Language Initiative (DLI) classroom Lead teacher is fully trained/certified in classroom curriculum (including Soy Bilingüe for DLI classroom)	Classroom does not implement or does not have waiver; or teacher is not trained/certified	Classroom implements or has waiver and teacher reports some training	Classroom implements or has waiver and teacher reports full training/certification
4. Classroom quality floor	Early Achievers rating of 3 or higher, or DEEL-determined equivalency for SPS (EA not available for SPS as they are license-exempt)	Program has less than 3 on EA	N/A	Program has 3 or higher

Staff characteristics and qualifications

Topic	Program Component	Thresholds		
5. Staff qualifications	SPP teachers meet educational requirements or are completing a plan to meet requirements	Classroom lead teacher does not meet educational requirements	Classroom lead teacher does not meet requirements but has plan for meeting them	Classroom has lead teacher that meets educational requirements

Topic	Program Component	Thresholds		
		Low (no)	**Adequate**	**Ideal (yes)**
6. Paid teacher planning time	Staff are compensated for 10 hours of planning time per week, away from children to develop classroom plans, participate in one-on-one meetings with the DEEL coach, and to complete child assessment and individual child plans	Classroom lead teacher has less than four hours of planning time per week	Classroom lead teacher has four to nine hours of planning time per week	Classroom lead teacher has 10 or more hours of planning time per week
7. Staff training release time	Whether teachers participate in 28 days of paid release time each year	Teacher participates in less than 10 days per year of release time	Teacher participates in 10–20 days per year of release time	Teacher participates in more than 20 days of release time per year
Professional development, training, & coaching				
8. Teacher participation in DEEL basic training	Teachers have completed required trainings: • Teaching Strategies GOLD (TSG) and inter-rater reliability (IRR) training • Ages and Stages Questionnaire training • CLASS training • Health screening training	Lead teacher has participated in fewer than three of the required trainings	Lead teacher has participated in three of the required trainings	Lead teacher has participated in all four of the required trainings
9. Coaching dosage	Teachers meet at least monthly with their coach and report feeling supported by their coach.	Lead teacher meets less than monthly with their coach and/or does not feel supported	Lead teacher meets at least monthly or teacher reports feeling supported	Lead teacher meets at least monthly and reports feeling supported

Topic	Program Component	Thresholds		
		Low (no)	**Adequate**	**Ideal (yes)**
10. Coaching (subject matter)	DEEL coaches support teachers with skills to 1) provide individualized supports to each child (including children with special needs, multi-language learners) and 2) to implement culturally responsive and anti-bias teaching practices	Lead teacher reports coaches have not been helpful in these content areas	Lead teacher reports coaches have been helpful in one but not both content areas	Lead teacher reports coaches have been helpful in both content areas
Heath and developmental screenings				
11. Health and developmental screenings	Children participate in annual health screenings and Ages and Stages Questionnaire (ASQ)	Fewer than 50% of all children receive a health screening or an ASQ	Between 50-75% of children receive a health screening or ASQ	More than 75% of children receive a health screening or ASQ

Source: Authors' analysis of 2022-23 survey data and Seattle Department of Education and Early Learning data

To what extent are TSG scores related to SPP implementation and CLASS scores?

Table A3. Regression table for rubric items on TSG spring scale scores in each domain

Panel A: Rubric items 2, 5, and 11 (larger sample size due to administrative data source)

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Rubric item 2: Operational and staff-ratio requirements	16.78*	18.71**	17.87*	17.36*	7.364	21.33***

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
	-9.855	-8.64	-10.19	-10.24	-5.246	-7.353
Rubric item 5: Staff qualifications	-7.653	-0.492	-7.544	-1.613	4.59	4.17
	-9.746	-9.77	-10.22	-9.324	-4.839	-5.864
Rubric item 11: Health and developmental screenings	10.93	10.57	14.01	13.02	4.071	1.773
	-9.337	-10.37	-10.95	-12.25	-6.618	-9.154
Female	10.16***	4.943*	12.21***	10.89***	5.468**	0.283
	-3.423	-2.868	-4.09	-3.47	-2.104	-2.68
Family income in preschool (natural log)	1.634	1.595	3.436	2.387	3.416**	3.668*
	-1.698	-1.862	-2.183	-2.001	-1.355	-1.899
Child was homeless at some point during year	-14.69	-14.72	-15.3	-12.67	-11.95	-6.585
	-9.588	-8.971	-11.16	-8.325	-7.969	-8.307
Age	37.92***	41.06***	50.06***	44.49***	31.09***	37.78***
	-3.502	-3.317	-4.898	-4.211	-2.621	-3.38
American Indian/Alaska Native	3.174	44.32***	-35.71	-17.88	-13.74	-26.89
	-39.97	-16.04	-64.2	-46.02	-30.38	-45.71
Black	-15.64**	-12.55*	-27.24***	-19.04***	-11.68***	-20.66***
	-6.443	-6.731	-8.934	-6.843	-3.831	-5.523
Latinx	-1.496	-3.193	-4.266	-1.406	-7.099	-4.557
	-5.528	-6.46	-7.761	-6.705	-4.419	-5.93
Asian	0.303	2.123	-10.43	-1.483	-1.526	-3.571
	-6.512	-6.347	-7.973	-6.462	-3.948	-4.31
North African/Middle Eastern	-2.917	17.67*	-6.884	0.173	-5.847	-7.922
	-12.03	-9.132	-16.37	-14.25	-9.446	-9.184
Two or more races	5.347	5.883	0.932	4.514	1.782	0.0133
	-5.798	-6.029	-7.023	-5.162	-2.847	-3.969
English is primary language	-1.505	-0.249	5.157	2.236	-0.44	-3.055
	-10.06	-8.176	-11.1	-10.25	-6.431	-7.022
Spanish is primary language	5.695	5.178	0.802	11.21	-4.611	-8.632
	-10.36	-10.68	-12.53	-10.87	-6.779	-9.013
Dual-language learner	-10.01	-5.302	-16.69	-10.35	-3.053	-1.929
	-9.742	-7.915	-10.57	-9.953	-6.157	-6.443

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Program Alignment = 2, Head Start	11.65	30.00*	14.18	32.77**	17.22	32.35**
	-13.94	-17.39	-16.08	-15.31	-12.09	-12.66
Program Alignment = 3, Dual Language	-8.974	-9.767	-11.39	-4.139	-2.975	-1.313
	-10.72	-9.269	-13.35	-11.95	-9.473	-8.182
Program Alignment = 4, Special Education	-51.04***	-32.59***	-63.08***	-38.92***	-20.61*	-24.07**
	-10.79	-10.58	-15.12	-12.32	-11.57	-11.15
Program Alignment = 5, None	2.169	1.253	-3.547	2.616	3.825	7.401
	-8.93	-8.841	-11.46	-9.621	-9.211	-8.109
Site Type = 2, FCC	0.684	-5.217	-3.195	-4.625	2.649	1.759
	-8.067	-8.409	-9.726	-9.169	-4.762	-6.253
Site Type = 3, SPS	-17.14	-15.26	16.8	11.36	8.925	7.093
	-24.13	-22.66	-31.97	-28.73	-27.67	-38.63
Constant	266.4***	378.9***	242.6***	233.5***	319.2***	159.8***
	-32	-32.94	-40.94	-34.62	-24.25	-28.85
Observations	1,155	1,156	1,151	1,151	1,150	1,151
R-squared	0.249	0.258	0.257	0.249	0.273	0.275
Adj R Squared	0.234	0.243	0.243	0.235	0.258	0.261

Note: *** $p < 0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses. Statistical significance for this report was considered at the .05 level or higher.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel B: Rubric items 2, 5, 6, 7, 9, 10, and 11 (smaller sample size due to survey data source)

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Rubric item 2: Operational and staff-ratio requirements	3.716	12.63	18.99	18.8	7.539	19.41**
	-13.3	-12.14	-13.63	-13.15	-6.533	-8.326
Rubric item 5: Staff qualifications	-2.845	12.18	-4.971	2.954	2.125	2.098
	-10.62	-11.47	-11.79	-11.45	-6.393	-7.444
Rubric item 11: Health and developmental screenings	7.113	-2.601	3.521	0.341	4.746	1.429
	-10.17	-14.97	-13.86	-16.05	-7.578	-8.014

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Rubric item 6: Paid teacher planning time	2.749	-0.578	10.6	9.415	10.73*	11.72
	-9.799	-10.04	-11.18	-12.64	-5.896	-7.124
Rubric item 7: Staff training release time	4.101	8.52	15.14	9.53	4.67	-0.154
	-9.915	-9.643	-11.41	-12.39	-7.016	-7.445
Rubric item 9: Coaching dosage	8.251	-0.307	-1.059	-0.718	2.359	2.345
	-10.2	-9.917	-11.39	-12.43	-7.078	-8.173
Rubric item 10: Coaching subject matter	-3.543	-4.532	2.914	2.166	-2.617	0.276
	-10.82	-9.634	-12.08	-12.16	-6.18	-8.193
Female	16.75***	9.716***	15.73***	14.48***	9.229***	2.411
	-3.797	-3.073	-5.191	-4.341	-2.758	-3.295
Family income in preschool (natural log)	1.087	1.949	4.164	3.093	5.242***	5.206*
	-2.636	-2.537	-3.681	-3.191	-1.953	-2.765
Child was homeless at some point during year	-7.445	-4.252	5.704	-2.334	-8.38	-5.039
	-11.98	-9.598	-11.95	-11.13	-13.09	-12.23
Age	36.87***	41.82***	50.28***	45.73***	32.52***	39.74***
	-4.665	-3.407	-6.127	-5.07	-3.667	-4.638
American Indian/Alaska Native	-18.82	30.63**	-81.31	-57.16	-37.59	-51.45
	-41.59	-13.11	-72.53	-46.16	-33.18	-55.51
Black	-22.24**	-14.86*	-32.03**	-23.67**	-16.16**	-25.92***
	-9.254	-8.581	-14.2	-11.11	-6.086	-8.924
Latinx	2.59	-2.425	-6.828	-6.248	-10.93	-5.324
	-7.277	-9.426	-11.24	-10.19	-6.82	-8.627
Asian	3.474	6.218	-6.83	7.906	0.765	-2.621
	-8.059	-7.549	-10.41	-9.751	-5.642	-6.111
North African/Middle Eastern	-5.682	8.339	-9.933	3.847	-4.489	-12.43
	-13.86	-11.41	-17.58	-14.61	-9.672	-11.59
Two or more races	2.171	7.665	-1.944	2.2	-0.755	-0.464
	-6.354	-7.498	-8.288	-7.184	-3.521	-5.01
English is primary language	-7.798	-7.927	-1.566	-5.309	-0.475	-7.851

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
	-10.95	-8.405	-10.31	-10.41	-7.588	-7.657
Spanish is primary language	9.352	15.1	15.84	21.79	0.352	0.681
	-14.25	-14.93	-18.24	-17.6	-10.68	-13.88
Dual-language learner	-10.71	-11.26	-19.42	-18.31	-2.437	-4.434
	-11.98	-8.607	-11.64	-12.35	-7.825	-8.14
Program Alignment = 2, Head Start	21.21	14.57	18.16	45.73*	23.81	36.33
	-17.8	-23.58	-25.37	-26.26	-14.8	-22.94
Program Alignment = 3, Dual Language	-5.687	-10.1	1.263	0.906	-4.577	-6.371
	-17.2	-15.49	-21.87	-17.24	-11.53	-13.09
Program Alignment = 4, Special Education	-51.66***	-37.57**	-55.04**	-27.57	-24.69**	-33.43*
	-18.19	-15.5	-25.63	-20.67	-12.24	-17.38
Program Alignment = 5, None	0.391	-5.288	4.148	13.91	3.719	2.472
	-13.21	-12.55	-18.63	-14.38	-10.27	-11.86
Constant	278.1***	386.5***	217.3***	207.3***	284.3***	137.8***
	-44.61	-41.69	-55.49	-45.56	-30.85	-38.06
Observations	609	610	606	607	607	607
R-squared	0.278	0.311	0.311	0.311	0.332	0.329
Adj R Squared	0.247	0.282	0.281	0.281	0.304	0.3

Note: *** $p < 0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses. Statistical significance for this report was considered at the .05 level or higher.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Table A4. Regression table for CLASS scores on TSG spring scale scores in each domain

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Emotional Support	7.108	21.72	2.234	22.77	11.72	-17.07
	-17.4	-16.46	-18.15	-17.73	-7.434	-13.56
Instructional Support	0.393	11.96	10.12	7.02	1.657	3.967
	-8.003	-7.275	-9.491	-10.46	-5.246	-7.657
Classroom Organization	-0.808	-13.36	-5.955	-18.37	-6.111	6.348
	-10.59	-11.45	-12.63	-11.54	-6.309	-9.204
Female	7.057	5.412	11.91**	9.472*	6.405**	2.576

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
	-5.423	-3.956	-5.719	-5.428	-2.752	-3.405
Family income in preschool (natural log)	-1.989	0.732	-0.779	1.38	1.594	0.706
	-2.57	-2.694	-2.777	-3.037	-1.661	-2.212
Child was homeless at some point during year	-29.42**	-36.35**	-38.85**	-38.19**	-29.40**	-31.28**
	-13.52	-14.13	-14.76	-16.78	-12	-13.71
Age	32.98***	38.54***	43.01***	40.74***	28.19***	34.90***
	-5.137	-4.558	-6.929	-5.695	-3.364	-4.571
American Indian/Alaska Native	-12.31	-24.09	-10.1			
	-24.68	-26.83	-25.34			
Black	-8.064	4.483	-18.4	-12.18	-11.67*	-19.67**
	-9.884	-9.324	-12.23	-11.07	-6.439	-8.766
Latinx	-9.91	-4.462	-9.062	-6.112	-12.95**	-12.43
	-8.669	-9.053	-10.71	-10.11	-5.496	-7.711
Asian	4.802	8.266	-1.397	3.63	0.582	-0.0605
	-9.674	-9.158	-10.95	-8.994	-5.07	-6.267
North African/Middle Eastern	-15.09	16.66	-13.51	-3.607	-14.07	-20.33*
	-15.3	-11.98	-15.18	-15.07	-8.59	-10.47
Two or more races	3.776	4.655	2.526	0.974	3.349	-1.75
	-7.237	-7.932	-8.967	-7.432	-3.222	-5.057
English is primary language	-6.512	-1.404	-2.229	4.281	-2.929	-5.835
	-10.89	-10.08	-13.58	-11.73	-8.759	-8.495
Spanish is primary language	5.941	-4.087	-7.881	5.099	-2.537	-7.445
	-16.22	-16.73	-17.08	-18.56	-10.48	-13.39
Dual-language learner	-17.69	-8.044	-27.16**	-11.71	-6.988	-6.205
	-11.57	-11.8	-13.47	-12.57	-7.727	-7.988
Program Alignment = 2, Head Start	13.85	76.94***	15.51	68.01***	8.022	41.85**
	-18.59	-8.163	-18.31	-17.89	-12.24	-17.31
Program Alignment = 3, Dual Language	9.46	7.572	7.24	4.758	-8.296	2.007
	-16.62	-10.99	-19.05	-14.98	-14.3	-12.39
Program Alignment = 4, Special Education	-36.33*	-20.02	-41.46	-20.88	-21.59	-22.24
	-18.42	-15.1	-25.26	-20.54	-17.28	-20.34

Variable	Social-emotional	Physical	Language	Cognitive	Literacy	Math
Program Alignment = 5, None	13.49	4.323	14.08	12.86	-2.467	5.847
	-13.38	-11.48	-16.17	-12.69	-13.6	-11.93
Site Type = 2, FCC	-1.143	-15.85	-9.332	-3.486	11.13	8.126
	-27.24	-27.09	-25.88	-28.25	-13.12	-20.8
Site Type = 3, SPS	-2.396	-14.66	-16.41	-10.35	1.738	-1.928
	-15.75	-12.81	-18.61	-19.29	-9.329	-13.51
Constant	302.1**	315.5**	322.4***	219.7*	331.3***	290.2***
	-114	-119.3	-120.6	-117.7	-56.36	-86.44
Observations	578	578	577	570	571	571
R-squared	0.181	0.255	0.226	0.208	0.282	0.256
Adj R Squared	0.149	0.225	0.195	0.177	0.255	0.228

Note: *** $p < 0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses. Statistical significance for this report was considered at the .05 level or higher.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

What is the impact of SPP participation on kindergarten attendance rates, kindergarten readiness assessment scores, and grade 3 standardized assessment scores?

Table A5. Student characteristics among SPP and state-funded preschool children in the 2017–18 preschool cohort, all children and children eligible for free or reduced-price lunch only

Characteristic	All children 2017–18		Children eligible for free or reduced-price lunch 2017–18	
	SPP	State-funded preschool	SPP	State-funded preschool
Female	47%	47%	48%	47%
Asian	22%	11%	25%	11%
Black	20%	23%	35%	23%
Latinx	14%	33%	17%	33%
White	28%	20%	10%	20%
Received English learner services	29%	49%	42%	50%
Eligible for free or reduced-price lunch	54%	97%	100%	100%
TSG cognitive	-1.524	-.579	-1.729	-.584
TSG language	-1.673	-.901	-1.849	-.907
TSG literacy	-.443	.344	-.715	.337
TSG math	-1.731	-1.162	-1.878	-1.166
TSG physical	-1.323	.356	-1.415	.371
TSG social-emotional	-1.778	-1.129	-1.874	-1.127

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Table A6. Balance tables for each outcome

Panel A: Kindergarten attendance

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.009555	0.096828	1.004676	0.99891
Asian	0.526101	-0.00039	2.237019	0.999642
Black	0.175391	0.005144	1.207891	1.006436
Latinx	-0.47233	0.011671	0.528765	1.011753
White	-0.29517	0.000706	0.542564	1.001548
Received English learner services	-0.14637	-0.28109	0.9845	0.910058
TSG social-emotional	-1.14753	-0.18983	0.662809	0.594939
TSG cognitive	-1.13551	-0.08122	0.762838	0.874465

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel B: WaKIDS social-emotional domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.000	0.052	1.004	1.002
Asian	0.531	0.059	2.219	1.114
Black	0.151	-0.024	1.186	0.972
Latinx	-0.475	-0.078	0.530	0.921
White	-0.288	0.046	0.560	1.074
Received English learner services	-0.122	-0.197	0.993	0.953
TSG social-emotional	-1.111	-0.271	0.619	0.547

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel C: WaKIDS language domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	-0.00436	0.028176	1.003943	1.001402
Children of color	0.270059	0.012974	0.586978	0.978638
Received English learner services	-0.12877	-0.03177	0.992188	0.998163
TSG Language	-1.00815	0.000478	0.641147	0.950067

Note: In this domain, the indicator variable "children of color" was used as a weighting variable instead of Asian, Black, and Latinx indicator variables as the model did not show balance when including those variables.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel D: WaKIDS literacy domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.000	0.006	1.004	1.000
Asian	0.525	0.101	2.186	1.208
Black	0.150	-0.070	1.183	0.933
Latinx	-0.478	0.035	0.530	1.034
White	-0.286	-0.072	0.562	0.873
Received English learner services	-0.122	-0.092	0.993	0.979
TSG literacy	-0.879	0.119	1.255	0.476

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel E: WaKIDS cognitive domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.001	0.156	1.004	0.990
Asian	0.526	-0.053	2.195	0.903
Black	0.152	0.087	1.187	1.100
White	-0.474	0.016	0.531	1.015
Received English learner services	-0.287	-0.023	0.561	0.961
TSG cognitive	-0.123	-0.342	0.993	0.882

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel F: WaKIDS physical domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	-0.017	0.031	1.003	0.998
Asian	0.516	-0.023	2.184	0.959
Black	0.140	-0.151	1.173	0.858
White	-0.461	0.133	0.543	1.139
Received English learner services	-0.257	0.107	0.608	1.194
TSG physical	-0.141	-0.198	0.990	0.925

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel G: WaKIDS math domain

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	-0.005	-0.049	1.004	0.993
Asian	0.525	0.067	2.186	1.122
Black	0.126	0.024	1.157	1.029
White	-0.451	-0.074	0.560	0.929
Received English learner services	-0.272	-0.084	0.582	0.858
TSG math	-0.114	-0.245	0.995	0.943

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel H: Grade 3 math scores

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.032	0.010	1.007	1.001
Asian	0.618	-0.012	2.312	0.980
Black	0.131	0.109	1.189	1.146
Latinx	-0.564	-0.060	0.454	0.943

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
White	-0.318	-0.019	0.522	0.969
Received English learner services	-0.100	-0.295	0.999	0.925
TSG cognitive	-1.112	-0.118	0.631	0.762
TSG language	-0.999	-0.144	0.570	0.590
TSG literacy	-0.853	-0.074	1.195	1.003
TSG social-emotional	-1.068	-0.209	0.568	0.529

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel I: Grade 3 ELA scores

Characteristic	Standardized mean difference		Variance ratio	
	Original	Weighted	Original	Weighted
Female	0.032	-0.036	1.007	0.995
Asian	0.612	-0.009	2.279	0.986
Black	0.124	0.122	1.184	1.171
Latinx	-0.569	-0.063	0.453	0.941
White	-0.298	-0.091	0.554	0.852
Received English learner services	-0.100	-0.324	0.999	0.915
TSG cognitive	-1.108	-0.135	0.633	0.733
TSG language	-0.994	-0.175	0.572	0.591
TSG literacy	-0.855	-0.080	1.197	1.072
TSG math	-1.011	-0.112	0.756	0.792
TSG social-emotional	-1.058	-0.191	0.560	0.547

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Table A7. Regression tables for each outcome

Panel A: Kindergarten attendance

Variable	Estimated coefficient
N	819
SPP	0.0194***
	(0.00592)
Female	0.000898
	(0.00546)
Asian	0.0286**
	(0.0128)
Black	0.0287***
	(0.0105)
Latinx	0.0193*

Variable	Estimated coefficient
	(0.0116)
Received English learner services	0.0215*
	(0.0113)
Had an individualized education program (IEP)	0.00379
	(0.00495)
Total days enrolled in preschool	-0.0158*
	(0.00902)
TSG social-emotional	-0.00160
	(0.00654)
TSG cognitive	0.00671
	(0.00709)
Constant	0.896***
	(0.0244)

Note: *** p < 0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel B: WaKIDS domains (kindergarten readiness)

Variable	Social-emotional	Language	Literacy	Cognitive	Physical	Math
N	798	800	796	799	805	799
SPP	.467***	0.463***	0.533***	0.563***	0.426***	0.833***
	(0.110)	(0.101)	(0.0623)	(0.0919)	(0.0839)	(0.0881)
Female	0.327***	0.171**	0.180**	0.237**	0.244***	-0.113
	(0.0799)	(0.0693)	(0.0770)	(0.0945)	(0.0850)	(0.0968)
Asian	-0.0311		0.191	-0.172	-0.300*	-0.154
	(0.152)		(0.166)	(0.179)	(0.175)	(0.177)
Black	-0.0565		0.271*	-0.0978	0.000152	0.0189
	(0.144)		(0.152)	(0.154)	(0.139)	(0.149)
Latinx	0.00499		-0.00777	-0.0703	-0.0503	-0.188
	(0.135)		(0.139)	(0.151)	(0.148)	(0.161)
White	0.0610		0.234*	0.0856	-0.0115	0.0242
	(0.133)		(0.127)	(0.142)	(0.135)	(0.136)
Children of color		-0.167*				
		(0.0856)				
Had an individualized education program (IEP)	-0.867***	-0.612***	-0.867***	-0.649***	-0.745***	-0.86***
	(0.124)	(0.104)	(0.148)	(0.139)	(0.174)	(0.159)
Total days enrolled in preschool	-0.00118	0.00115	0.00204	-0.000232		-0.0022*
	(0.00105)	(0.00108)	(0.00164)	(0.00107)		(0.00130)
Received English learner services	-0.0357	-0.358***	-0.395***	-0.224**	-0.184*	-0.245**
	(0.0860)	(0.0725)	(0.0924)	(0.101)	(0.0983)	(0.105)

Variable	Social-emotional	Language	Literacy	Cognitive	Physical	Math
TSG social-emotional	0.207***					
	(0.0574)					
TSG cognitive				0.219***		
				(0.0471)		
TSG language		0.231***				
		(0.0361)				
TSG literacy			0.0964			
			(0.0619)			
TSG physical					0.0603**	
					(0.0244)	
TSG math						0.619***
						(0.0745)
Constant	0.524*	0.234	-0.367	0.291	0.0874	1.763***
	(0.315)	(0.297)	(0.437)	(0.303)	(0.114)	(0.377)

Note: *** p < 0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Source: Authors' analysis of data from Washington's Education Research and Data Center.

Panel C: Grade 3 assessment scores

Variable	Math	ELA
N	674	674
SPP	0.648***	0.682***
	(0.106)	(0.116)
Female	-0.243***	0.0326
	(0.0836)	(0.0856)
Asian	0.269	0.101
	(0.179)	(0.184)
Black	0.0285	0.122
	(0.142)	(0.135)
Latinx	0.0464	0.0507
	(0.144)	(0.132)
White	0.389***	0.342**
	(0.141)	(0.137)
Received English learner services	-0.226**	-0.193**
	(0.0926)	(0.0980)
Had an individualized education program (IEP)	-0.751***	-0.709***
	(0.103)	(0.116)
Total days enrolled in preschool	-0.005***	-0.004***
	(0.00127)	(0.00139)
TSG social-emotional	-0.00506	0.0209

Variable	Math	ELA
	(0.105)	(0.115)
TSG cognitive	0.0136	-0.00535
	(0.0892)	(0.136)
TSG language	-0.175*	-0.149
	(0.0932)	(0.114)
TSG literacy	0.237***	0.332***
	(0.0746)	(0.0635)
TSG physical		
TSG math	0.316***	
	(0.116)	
Number of schools enrolled in grade 3		
	0.002	0.198**
	(0.0911)	(0.0949)
Constant	1.576***	0.587
	(0.399)	(0.400)

Note: *** p < 0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Source: Authors' analysis of data from Washington's Education Research and Data Center.