Scaling Early Childhood Evidence-Based Interventions through RPPs

Laurie Brotman, Spring Dawson-McClure, Dana Rhule, Katherine Rosenblatt, Kai-ama Hamer, Dimitra Kamboukos, Michelle Boyd, Michelle Mondesir, Isabel Chau, Erin Lashua-Shriftman, Vanessa Rodriguez, R. Gabriela Barajas-Gonzalez, and Keng-Yen Huang

Summary

In 2014, New York City launched its Pre-K for All program, which rapidly tripled the number of children in free, full-day prekindergarten. Two years later, the city rolled out ThriveNYC, a citywide mental health initiative with a focus on early childhood.

By this time, a team from New York University's medical school had partnered for nearly two decades with the city's Division of Early Childhood Education, during which time they developed, tested, and refined ParentCorps, an intervention aimed at supporting the parents and teachers of prekindergarten children. They were thus well positioned to take on the citywide scale-up of their proven intervention. Nonetheless, the partnership was challenged by the scope of the scale-up and by the need to modify the intervention, which had been developed and tested in schools, for use in the community-based organizations that house many of the city's prekindergarten programs. In this article, Laurie Brotman and colleagues describe how their long-established partnership principles—for example, ParentCorps's commitments to racial equity, centering parents' voices, and continuous learning— helped guide their actions, their strategy development, and ultimately their plan for scaling ParentCorps locally and nationally.

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At the NYU Grossman School of Medicine, Laurie Brotman is Bezos Family Foundation Professor of Early Childhood Development in the Department of Population Health; Spring Dawson-McClure is an assistant professor in the Department of Population Health; Dana Rhule is a clinical assistant professor in the Department of Population Health; Katherine Rosenblatt is a clinical assistant professor in the Department of Population Health; Dimitra Kamboukos, Vanessa Rodriguez, and R. Gabriela Barajas-Gonzalez are assistant professors in the Department of Population Health; Keng-Yen Huang is an associate professor in the Department of Population Health; Kai-ama Hamer is ParentCorps associate director; Michelle Boyd is a ParentCorps specialist; and Michelle Mondesir, Isabel Chau, and Erin Lashua-Shriftman are ParentCorps managers.

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any early childhood interventions show great potential in early testing but then fail to scale effectively.¹

Likewise, school districts and other public systems may introduce evidence-based interventions (EBIs) to improve the quality of their programs and promote better child and family outcomes, but without adequate support for implementation and continuous improvement, such interventions often remain underused or fail to achieve their aims.2 According to the Society for Prevention Research's Mapping Advances in Prevention Science (SPR MAPS) IV Translational Research Task Force, achieving scaled impact "remains one of the most vexing challenges facing prevention science."

Researchers have argued that traditional models of moving from efficacy trials to effectiveness trials to scaling haven't worked, in part due to a failure to consider key aspects of the system (such as policies and practices) in which the EBI is being scaled.⁴ Scholars describe the "pipeline paradox" as based on faulty assumptions about the development and scaling of interventions being a linear process.⁵ Specifically, there's a common belief that once an intervention is tested, refined, and shown to work (and considered to be an EBI), the only step remaining is for people and systems to use it. In this linear model, the EBI developer's role is quite limited, since the EBI is considered complete as tested; the researchers serve only as independent evaluators of the scaled EBI's effectiveness.⁶ Importantly, such accountability evaluations, which

intentionally restrict the relationships among researchers, policy makers, and practitioners, often provide minimal benefits to the system or little information that can be used to improve systems-level policies and practices. Many recent reviews about scaling EBIs in public education systems have concluded that researchers, practitioners, and policy makers must work together in new ways.⁷

In this article, we describe a researchpractice partnership (RPP) developed to support the scaling of an early childhood EBI, ParentCorps, as part of New York City's Pre-K for All. Key partners who have contributed to the RPP over the past five years include ParentCorps developers; implementation leaders and researchers from the Center for Early Childhood Health and Development at New York University's Grossman School of Medicine; and policy makers, program leaders, and researchers from the Division of Early Childhood Education (DECE) of the New York City Department of Education (DOE). By bringing together researchers, practitioners, and policy makers in new ways, this RPP aims to support ParentCorps implementation in prekindergarten (pre-K) programs; strengthen impact at scale; and produce sustainable improvements to ParentCorps and DOE policies, practices, and programs.°

Background

In 1998, the first author of this article, Laurie Brotman, along with Esther Calzada, developed ParentCorps as a preventive intervention for culturally diverse families (with respect to race, ethnicity, immigrant

The RPP includes leaders from the New York City DOE's Research and Policy Support Group and the DECE Mental Health & Wellness, Teaching & Learning, Data & Analytics, and Performance teams. Principal research partners from the NYU Grossman School of Medicine's Department of Population Health who are not authors on this article include Alexandra Ursache, Samrachana Adhikari, and Andrea Troxel.

status, nationality, religion, and more) living in historically disinvested neighborhoods. As clinical psychologists and prevention scientists, they brought both research and practice perspectives to their work. Their vision for ParentCorps was influenced by cultural adaptation efforts that sought to ameliorate the pervasive and persistent patterns of limited access to culturally relevant mental health services for communities of color. Cultural adaptation aims to enhance engagement and effectiveness through a process of "systematic modification of an EBI to consider culture and context in such a way that it is compatible with the client's cultural patterns, meanings and values."8 Ideally, cultural adaptation follows a series of steps that are guided by a deep familiarity with the research evidence and its limitations; by a commitment to preserving core components of fruitful interventions alongside a critical analysis of the extent to which interventions are aligned with white middle-class values (or consider white culture as normative); and by partnership with community members, extensive pilot work, and tests of efficacy.9 Meta-analyses generally show that cultural adaptation can successfully meet the needs of people of color.¹⁰

In the spirit of cultural adaptation, Brotman and Calzada reviewed the research on parenting interventions for young children to identify core components: that is, a set of behavioral parenting strategies and adult behaviorchange techniques (such as role play or home practice). As they developed the content and delivery model, they partnered with a respected Black-led communitybased organization to center family voices and to engage community stakeholders and cultural informants, including Black and Latino parents, educators, and mental health professionals.11

Looking ahead to implementation at scale, the developers saw the need to design a program that addressed the complexities of city life. Many urban centers are highly segregated, with tremendous variation throughout nonwhite areas, ranging from racial/ethnic enclaves to multicultural neighborhoods. 12 The characteristics of urban populations also shift over time due to changing patterns of marriage, fertility, and immigration (for example, from 2000 to 2010, 6 percent of New York City's approximate 29,000 census blocks changed from predominantly white to predominantly Latino or Asian American). In these ever-evolving communities, individual experiences of culture also change—the acculturation of each adult in a family follows a unique path, adding further nuance to the family's cultural characteristics. 13

ParentCorps is not for one particular cultural group; instead, it embraces a broad definition of culture. In the parenting program and professional development, parents and teachers are asked to reflect on their own values and beliefs and to consider how these are influenced by their cultural identity—for example, a Puerto Rican mother with pronounced familistic values; an African-American father with strong racial identity; a Jamaican grandfather who immigrated as an adult; or a thirdgeneration, English-speaking Dominican parent.

ParentCorps includes three components that help parents and pre-K teachers create safe, nurturing, and predictable environments for children:

- professional development for pre-K teachers and leaders on culturally responsive family engagement and social-emotional learning;
- a parenting program for families of pre-K students; and
- a social-emotional learning program in pre-K classrooms.

ParentCorps aims to place culture at the center of each program component by honoring every family's culture as important and adaptive. 14 Discussions and activities elicit cultural and contextual themes as they relate to parenting and child development. At the start of the 14-session parenting program, for example, parents share their cultural values and beliefs and contemplate what has influenced their own parenting choices. Parents then set goals for their children, grounded in a "whole child" view of development (that is, social, emotional, behavioral, physical, and cognitive) and in the context of their cultural values and beliefs. For example, a mother who values respect and obedience may want to help her children feel confident and work hard in school, even when they're frustrated. These culturally informed goals are a focal point of later sessions where parents assess the fit and relevance of each parenting strategy.

The process is collaborative, allowing for the mutual transfer of expertise; parents examine their cultural values and beliefs in response to strategies introduced by the group's facilitator. Driven by the unique characteristics of their children, families, and contexts, parents make their own decisions about whether and how to use "the science of parenting" (that is, crossculturally robust strategies linked to positive child outcomes). The facilitator supports the parents' autonomy to do so. Each strategy session is introduced through a consistent structure, including evocative questions such as, What might your grandmother say about praising children for good behavior? Did your parents or other important adults play with you when you were a child? What would they think now if they saw you down on the floor playing? Facilitators invite parents to express skepticism, but also encourage them to consider whether each new strategy could help them meet any of their goals or handle certain situations. This approach can lead parents to open up to a strategy they'd perceived as being at odds with a prominent value. The developers hypothesized that placing culture at the center would support parents' participation in further sessions and skill practice at home, and increase the extent to which parents find the sessions relevant and respectful—and see the strategies as helpful in reaching their goals.¹⁵

For 10 years, Brotman and colleagues implemented, tested, and improved the original version of ParentCorps for families of pre-K students living in historically disinvested New York City neighborhoods. Studies involved a pilot with 40 families in partnership with leaders, practitioners, and community members from the Harlem Children's Zone; a randomized controlled trial involving 171 families in eight elementary schools in a Brooklyn community school district, with a short-term follow-up; and a randomized controlled trial with 1,050 pre-K families in 10 elementary schools from two community school districts in Brooklyn, with follow-up studies through the transition to middle school.16

These studies found that ParentCorps worked as intended: it promoted self-regulation in early childhood by

strengthening parents' and teachers' capacity to support children's skill development.¹⁷ Specifically, ParentCorps improved important aspects of the home and classroom environments, leading to increased knowledge and use of effective practices (such as positive reinforcement and setting clear expectations) and more nurturing adult-child interactions. It also strengthened family engagement as perceived by both parents and teachers. 18 Through its impact on social-emotional development in pre-K, the ParentCorps program helped prevent mental health problems, including both emotional and behavioral problems at school, through second grade. 19 It also led to improved academic achievement by the end of kindergarten, an impact that lasted at least through second grade.²⁰ In addition, among children who entered pre-K without strong behavior-regulation skills, ParentCorps reduced early behavior problems and prevented the development of obesity and unhealthy behaviors through second grade.²¹ Long-term follow-up showed that ParentCorps even reduced chronic absenteeism from third through sixth grades. Based on implementation costs and outcomes from the two randomized controlled trials, a study found that in high-poverty, urban schools, compared to standard pre-K programming, ParentCorps saved \$4,387 per student and substantially increased each individual's quality-adjusted life expectancy.²²

In 2009, Spring Dawson-McClure, a clinical psychologist and prevention scientist, partnered with Brotman and Calzada to incorporate into ParentCorps new basic science findings in the areas of children's eating habits, physical activity, and sleep. The revised program was piloted in six high-poverty elementary schools with pre-K programs. A study with 91 families found

that the revised program had the same positive impacts on parenting practices and child behavior found in previous studies, and the study also suggested new areas of impact: on child nutrition and physical activity knowledge, preferences, and health behaviors, including sleep health.²³ By 2014, ParentCorps implementation leaders had developed a portfolio of userfriendly, culturally relevant materials to support fidelity and efficiency and to shift responsibility for facilitating the ParentCorps programs to teams based in schools (mental health professionals, teachers, and parent support staff).

Many factors—including impact on parent and child outcomes, evidence of cost effectiveness, and a strong history of working collaboratively to help pre-K programs implement ParentCorps—provided a convincing rationale to invest in scaling ParentCorps to enhance pre-K programs in historically disinvested neighborhoods. In 2015, the New York State Office of Mental Health and several family foundations with a deep interest in scaling early childhood EBIs committed to fund the scaling of ParentCorps in New York City's newly expanded universal pre-K programs. The ParentCorps team hoped that the approach to scaling ParentCorps would serve as a model for other cities in the state and across the country.

Context for Scaling

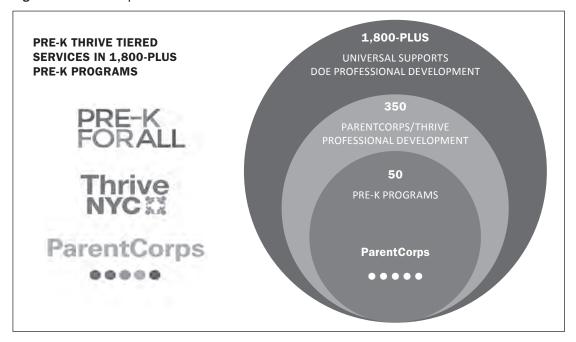
New York City's DOE is the largest school district in the country, serving more than 1.1 million students. About three-fourths of these students are economically disadvantaged, and more than 80 percent are children of color. Twenty percent are students with disabilities, and 14 percent are multilingual

learners or English language learners. The DECE launched Pre-K for All in 2014, relying on research showing that high-quality early childhood education helps children get a strong start in school and in life. Since then, the city has more than tripled the number of children in free, full-day pre-K; Pre-K for All now serves nearly 70,000 four-year-olds annually. About 40 percent of the 1,800-plus pre-K programs that make up Pre-K for All are in elementary schools, with the rest in community-based organizations (CBOs). DECE sets policy and quality standards for all pre-K programs, whether they're in schools or CBOs, and uses a centralized data system and procedures for enrollment and assessment of program quality. In addition, DECE supports the pre-K programs with a large, centralized workforce of early childhood social workers and instructional coordinators, and a comprehensive system of professional development for teachers, principals, and program directors.

The DOE's large investment in universal pre-K, and its commitment to using data to guide policies and practices, created an ideal context for RPPs to drive high-quality programming for children and their families. In 2015, the Mayor's Office established ThriveNYC, a citywide mental health initiative across 12 city agencies, including the DOE. Consistent with ThriveNYC's key focus on early childhood and EBIs, the DECE received multiyear funding to procure a vendor to provide evidence-based services and resources that would promote family engagement and social-emotional learning in Pre-K for All. Brotman and her colleagues proposed using an RPP to study the implementation and impact of scaled services, and to improve policies and practices systemwide.

Responding to DECE's urgent need to increase support for family engagement and social-emotional learning in pre-K, the ParentCorps team designed a tiered

Figure 1. ParentCorps Three-Tier Nested Model



service delivery model that was grounded in ParentCorps's evidence and its approach to behavioral change. Over three years, the three-tier nested model (see figure 1) would unfold as follows: tier 1, "fun with feelings" products to support social-emotional learning for all 70,000 families of pre-K students and professional development for DECE social workers, implemented in all 1,800-plus pre-K programs; tier 2, an aligned professional development series for early childhood teachers and leaders, implemented in 350 pre-K programs in high-poverty areas; and tier 3, the full ParentCorps model, implemented in 50 pre-K programs (selected from the 350 in tier 2). In 2016, Brotman and her colleagues were awarded the contract.

The Research-Practice Partnership Approach

The Pre-K Thrive contract provided three years of public funding to scale ParentCorps (the contract was later extended for three more years, through 2022). This funding was necessary, but not enough to ensure ParentCorps's successful and sustainable implementation across the school district. As described in a recent report by the SPR MAPS Task Force, other critical factors included the degree to which:

- the public system enacts policies (that is, statutes, regulations, and guidance) requiring or recommending EBIs;
- leadership and community stakeholders support EBIs;
- EBIs are ready for scale-up;
- there is a skilled workforce capable of delivering EBIs; and

the system and/or partners have capacity to support implementation, data monitoring, and evaluation.24

The RPP focused on each of these factors at different phases.

The first six months of the contract involved establishing the RPP and collaborative planning for scaling. This meant ensuring alignment with DECE policies, establishing buy-in from DECE leadership at all levels, and understanding the logistics and nuances of the education system that might impact delivery and adoption. The RPP created work groups with members from ParentCorps and DECE (and sometimes from the DOE's Research and Policy Support Group) to establish shared understanding of implementation activities and develop ways to measure accountability. The work groups would also design and plan a series of evidence-building activities, including three randomized controlled trials that included more than 175 pre-K programs in schools and early education centers (EECs) (see figure 2).

Drawing from two decades of collaboration among researchers, practitioners, and community members, the ParentCorps team relied on a set of five principles to guide its involvement in the RPP work with the DECE (see table 1). Below, we illustrate how we applied these guiding principles in a set of interrelated projects that all took place in EECs in CBOs.

The Challenge

Brotman and colleagues rigorously tested ParentCorps in pre-K programs in public elementary schools in historically disinvested neighborhoods. We have strong

Table 1. ParentCorps's Five Principles for RPP Work

1. ParentCorps is committed to racial equity.

As an organization, we take a population health perspective and strive to interrupt internalized and systemic racism in all aspects of our work. We are committed to investing in our team's own professional and personal development so that all team members are equipped to be effective racial equity leaders and population health advocates. We commit to taking an anti-racist approach with all aspects of ParentCorps planning, implementation, and research, in order to advance racial equity as well as population health.

2. ParentCorps is committed to centering parent voices. especially the voices of parents of color.

We recognize the importance of engaging parents as key stakeholders in all aspects of our growth, including the initial planning phase with new partners. The centering of parent voices is essential for a culturally responsive, family-centered program that seeks to reach and support parents experiencing adversity related to poverty, racism, and discrimination—both to achieve scaled impact on child outcomes and to begin addressing structural inequity.

3. ParentCorps is committed to continuous learning, improvement, and innovation.

To achieve scaled impact at the population level, we must create opportunities for measuring implementation and impact, fully digest and process what we learn, and improve ParentCorps programs, strategies, products, and processes. In addition, we are uniquely positioned to advance the field by describing the inputs of successful RPPs and disseminating our key findings.

4. ParentCorps is committed to understanding the needs and priorities of school leaders, teachers, mental health professionals, and other school staff.

We believe that principals are experts on their schools and teachers are experts on their classrooms, just as parents are experts on their children. We recognize that educators bring their whole selves to their interactions with children and families, and have their own social and emotional needs. We are committed to honoring the voices of these professionals and supporting them as needed to forge meaningful relationships with families.

5. In advancing new scaling relationships, ParentCorps is committed to value alignment and careful systems thinking.

In considering whether to engage with a new public system, we will carefully consider our values and lessons learned from past scaling efforts. For example, are the key elements for success (such as an established mental health workforce) in place, or is there willingness to build capacity? To what extent is the system committed to racial equity, family voices, and continuous learning? Lastly, we will critically consider how to embed ParentCorps in the larger ecosystem of policies, quality standards, and budgets, and we will focus on providing programs with a real potential for sustainable implementation at scale.

evidence for ParentCorps's impact in schoolbased pre-K programs, and the ParentCorps team has extensive experience in designing, testing, and improving implementation supports for elementary schools. Before submitting our proposal for scaling the full ParentCorps program in schools, the ParentCorps team made sure that all its components (professional development, parenting program, and social-emotional learning program) aligned with the schools' contexts, including staffing, finances, technologies, policies, and practices. For

instance, all the schools employed a fulltime parent coordinator to engage families, and the vast majority of high-poverty elementary schools employed at least one full-time mental health professional. These individuals, who participate in multiyear professional development (including one-onone coaching) along with pre-K teachers, are responsible for key aspects of ParentCorps's implementation.

Though ParentCorps was designed and tested in schools, in the early planning phase

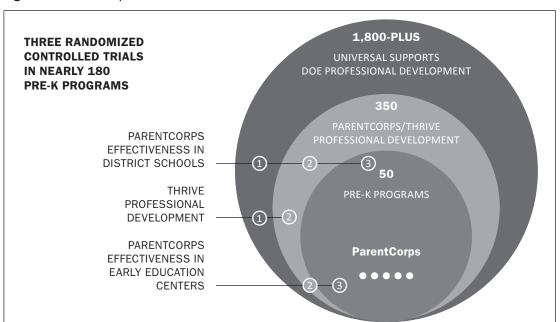


Figure 2. ParentCorps Randomized Controlled Trials

of the RPP, DECE leaders required that ParentCorps also be offered in EECs in CBOs, which served nearly 60 percent of the families in pre-K programs. Early discussions about resource allocation were guided by principle 1, commitment to racial equity. This was especially important as the ParentCorps team grappled with strongly held values for both equity and evidence. On the one hand, it was an opportunity to expand our reach to families in CBOs. And given that children in CBOs are more likely to be from immigrant families, and that teachers are more likely to be women of color who are paid less than their counterparts in schools, it was also a potential opportunity to counter systemic racism and the marginalization of educators and families. On the other hand. considering the intervention's theory of change, it wasn't a straightforward process to apply ParentCorps's evidentiary foundations, developed in elementary schools, to CBOs. Specifically, the theory of change says that long-term impacts on children's mental

health and academic achievement are expected to result from sustained changes in children's social-emotional skill development and self-regulation, parents' involvement in children's learning, and parenting more generally. The question of whether changes during pre-K are robust enough to be sustained through the transition into kindergarten could have a different answer for families entering kindergarten from a CBO, as compared to families continuing in the same elementary school building, with trusted pre-K teachers down the hall and a group of supportive parents who had developed relationships during the previous year. Indeed, the potential for sustained relationships is one reason that ParentCorps focused on schools. Similarly, the loss of supports at the transition to kindergarten has been suggested as an explanation for the fadeout of gains made in pre-K, seen by researchers in several early childhood intervention trials.²⁵ ParentCorps researchers wanted DOE partners to have a

realistic appraisal of this possibility, and to then collaboratively consider a full range of evidence-building options.

The decision to scale ParentCorps in EECs raised some critical questions for the RPP: What additional adaptations or implementation supports might be needed to build staff capacity in CBOs, especially related to facilitating the parenting program (typically done by a mental health professional based in a school) and outreach to parents (typically done by the school's parent coordinator)? Does ParentCorps produce meaningful family and child outcomes beyond the pre-K year after children transition to kindergarten in a different building?

RPP Solutions

Guided by our fourth principle, commitment to understanding the needs and priorities of school leaders, teachers, mental health professionals, and other school-based staff, the ParentCorps team honored the needs and priorities of DECE leadership. In collaboration with DECE, we set out to more fully understand how to support evidence-based policies and practices in the context of EECs in historically disinvested neighborhoods. Over four years, the RPP:

- adapted the delivery model to fit the EEC context;
- created and tested new implementation supports, including testing new parent outreach strategies;
- conducted a qualitative study of EEC pre-K teachers to better understand their own social and emotional needs; and

 designed and carried out a hybrid implementation-effectiveness randomized controlled trial in 23 EECs, with follow-up of children and families through the end of kindergarten.

Adapting the delivery model to fit the EEC context. Because mental health professionals were needed to facilitate the ParentCorps parenting program in EECs, DECE committed to allocating social workers from its centralized workforce. Previously, DECE social workers had facilitated the program only in the rare cases when school-based mental health professionals weren't available. Allocating social workers to the parenting program not only solved a critical problem, it also held promise for a sustainable solution and further institutionalization of ParentCorps throughout Pre-K for All. At the same time, it raised a new set of challenges for the RPP. Reallocating a subset of social workers meant that DECE was burdened with managing a new role for mental health professionals who must shift between multiple responsibilities to support the entire pre-K system. In addition, using a centralized workforce required a host of new processes for communication and decision-making to ensure that pre-K programs had the right facilitator, at the right time, who was fluent in the languages that met the needs of most parents. All this required system-level adjustments to training, supervision, and monitoring among ParentCorps coaches, DECE supervisors of social workers, and pre-K program leaders.

To conduct the role assumed in schools by parent coordinators, the RPP created the functional position of "ParentCorps champion," which could be carried out by a range of people working in EECs (such as pre-K teachers, administrative staff, or family

service workers in Head Start programs). Among the ParentCorps champion's responsibilities were coordinating logistics for the parenting program (determining the best time and the primary language for families), ordering food from local vendors, and managing reimbursement for program expenses paid by DECE. The champions also led outreach efforts, inviting parents to participate in the program.

These adaptations were complicated and time-consuming, but they produced a more comprehensive and inclusive model for ParentCorps delivery that can be applied to a range of settings in New York City and elsewhere.

Creating and testing a package of parent outreach strategies. Studies of ParentCorps have shown that participation in the parenting program is intricately tied to achieving positive parent and child outcomes.²⁶ Therefore, the success of ParentCorps in settings like EECs required parent outreach strategies that were effective and culturally relevant. To improve these strategies and ensure that they fit with EEC settings and could be easily used by a range of ParentCorps champions, the ParentCorps research and implementation leaders partnered with three experts in behavioral economics (BE) at NYU: Lisa Gennetian, Zoelene Hill, and Michelle Spiegel. Guided by principle 2, commitment to centering parent voices, the RPP team valued the BE framework because it does center family voices, and it helped us understand the experiences of families of color who are facing stress from poverty, racism, and discrimination. Specifically, the BE framework considers parents' in-themoment decision-making in the context of their lived experiences. The RPP anticipated

that BE might also offer insights on low-cost strategies to increase participation in the parenting program.

With principle 3 in mind (commitment to continuous learning, improvement, and innovation), the RPP used an iterative process to translate BE concepts into outreach materials that incorporated input from parents and practitioners.²⁷ For example, new materials, including a "Real Talk" brochure insert and a new tagline—"Together We: Parent. Share. Learn. Grow."—were designed to reduce stigma that parents may perceive related to accepting parenting support. ParentCorps's commitments to racial equity and centering parent voices (principles 1 and 2) were important themes in the design and testing of the BE-infused outreach materials. The RPP conducted a randomized experiment to test the feasibility of the new outreach package and to estimate its impact relative to ParentCorps outreach materials and strategies.28

Centering the voices of EEC teachers of color. To better understand the social-emotional needs of teachers in EECs, the RPP, led by Vanessa Rodriguez of NYU (a former NYC school teacher and qualitative researcher), carried out in-depth cognitive interviews with 18 pre-K teachers—most of them women of color—from 10 EECs.²⁹ The interviews explored the teachers' social-emotional awareness through a developmental perspective. Data analysis used Rodriguez's "Five Awarenesses of Teaching Framework" and identified three key themes.³⁰ First, the cognitive capacities relevant to teachers in EECs were highly consistent with those of other teacher populations. Second, we found an underlying conflict between teachers' keen awareness of their students'

social-emotional development and active suppression of their *own* social and emotional wellness. Third, most of the teachers believed that their own race and ethnicity weren't as important as those of their students; nearly half denied that their race or ethnicity had any influence on their teaching process.

To enhance professional development and other resources for teachers, our RPP continues to explore the findings that teachers suppress their own emotional needs for the perceived benefit of their students' social-emotional learning, and that they fail to acknowledge how their own racial/ethnic identity and racialized lived experiences influence their teaching practice.

Conduct a hybrid implementationeffectiveness randomized controlled trial in EECs. To answer critical questions about ParentCorps's implementation and impact in EECs, the RPP designed a hybrid implementation-effectiveness RCT that we carried out in 23 centers. As in previous RCTs and implementation experiences, the ParentCorps team expected to achieve replication of impacts for parents and children by the second year, after a year of coaching to support high-quality implementation and integration within the centers and classrooms.31 Therefore, in the first year the study focused on documenting and monitoring implementation and testing aspects of the outreach model for engaging families in the parenting program, given the new setting and roles for outreach detailed above. In the second year, we continued to assess implementation and conducted the qualitative study of teachers described above. We also enrolled a cohort of children and families to follow over time so we could assess the impact of ParentCorps on these factors: children's learning and development, the use of evidence-based parenting practices, the quality of parent-teacher relationships, parents' involvement in their children's learning, and parents' wellbeing. This study followed 323 families across 19 centers (originally 23 centers, but one closed in the first year of implementation, and the leaders of three others declined to participate). We tracked the children from pre-K through kindergarten, and continued to collect administrative data through fifth grade.

The design and conduct of this study required the RPP members to work together to solve a range of challenges, including:

- randomization design within the context of the services contract;
- engagement of EECs from a pool of leaders participating in professional development (tier 2) and joint communication from the RPP;
- commitment from the DECE to prioritize study centers for systematic classroom observations repeated at meaningful intervals, given the service provision and study time lines;
- development of culturally responsive recruitment materials and strategies that represented the RPP and study purpose in a transparent and autonomy-supporting manner; and
- development of a culturally relevant, strengths-based assessment battery for teachers, parents, and children that was feasible and sensitive to intervention.

Here, too, the guiding principles of commitment to racial equity and centering parent voices were particularly important as the RPP team sought solutions for each of these challenges.

Applying the experiences gained and lessons learned from this collaborative RCT, the RPP designed and executed a three-arm RCT in 80 elementary schools in historically disinvested neighborhoods (comparing the three nested tiers of the service delivery model; see figure 2). A primary aim of this ongoing study is to test variation of implementation and impact on pre-K teachers, classrooms, families, and children (from pre-K through fifth grade) when implemented at scale and in more diverse populations.

The RPP and COVID-19

When the COVID-19 pandemic began in early 2020, the RPP was well established after four years of collaborating, shared decision making, compromising, and navigating big and small challenges. Grounded in our guiding principles, we'd already had many conversations about race, including personal and institutional racism, and were experienced at working toward centering the voices of families of color in resource allocation, program improvements, and evidence-building. The RPP work groups and leadership had learned to adapt nimbly in the context of a large, complex system. We were able to use the partnership to extend ParentCorps to support children, families, and school staff during the pandemic, and to gather data to support the ongoing crisis response.

Facing tremendous uncertainty in the first US epicenter of the pandemic, our RPP focused on the most immediate and critical needs of families and educators leading up to and through the abrupt, unprecedented

school closures. We moved rapidly to virtual delivery of professional development for pre-K teachers (tier 2) and the parenting program (tier 3, operating in more than 50 pre-K programs), and we did our best to foster connection, community, and support when it was most needed. The ParentCorps team expanded the portfolio of culturally responsive social-emotional learning and family engagement products, including new tools to help families and teachers discuss the pandemic together.

To plan for the new school year, we adapted ParentCorps to the many challenges and traumatic experiences faced by families of color in historically disinvested neighborhoods. For example, the ParentCorps team drew on the core elements of our rigorously tested parenting program to create a virtual program, Parenting through the Pandemic, with four sessions that focused on grief, loss, and cultivating predictability for children in an unpredictable world. The RPP developed a plan for the ParentCorps team to train and support the DECE's early childhood social workers to deliver this virtual program to families in pre-K programs in the hardest-hit neighborhoods. We're now working on evidence-building strategies to assess the value of these responsive programs and approaches.

When the pandemic hit, the RPP was collecting research data from teachers and parents as part of two RCTs. After an initial pause, we opted to keep collecting data by phone and online surveys, with modifications to express care and offer support. Thoughtful engagement produced three major advances. First, our standing RPP meetings gave us the opportunity to share themes from parents' spontaneous descriptions of their experiences with remote learning, job loss, and illnessgiving the DECE insights to guide its myriad decisions through the early months of the pandemic. Second, collecting data remotely allowed us to contribute to the science on early childhood adversity and the pandemic's enormous physical, emotional, and educational impacts on children, families, and educators. Third, the RPP is poised to offer policy and practice implications to school leaders across the country who are striving to address children's social-emotional learning needs and family engagement. This work is more important than ever, as communities of color face disproportionate illness, death, stress, and trauma from the pandemic, and as the country reckons with centuries of state-sanctioned anti-Black violence.

Next Steps

The ParentCorps team is made up of intervention developers, implementers, and researchers who have participated in different types of partnerships. As such, we recognize the many advantages, challenges, and compromises of scaling within an RPP. Through this multiyear process, which managed to unite interested parties who are usually disconnected from one another, we at ParentCorps individually and collectively strengthened our commitment and skills necessary to center the voices of people of color and promote equity. At the same time, we built an authentic understanding of the constraints under which our public partners operate in large, complex systems that by design are slow to change. Looking ahead,

Table 2. Learning Agenda Themes and Sample Questions

Themes of Inquiry	High-Level Questions
Replication of impact at scale	Are impacts on children's achievement, mental health, and physical health achieved when ParentCorps is implemented independently by schools and pre-K programs at scale?
Unique impacts at scale	With ParentCorps's demonstrated impacts on child development, parenting, and teaching practices, what are its cascading benefits for parents' and teachers' mental health?
For whom?	Consistent with prior evidence, is ParentCorps meeting the needs of children who enter pre-K at the highest risk for difficulties in school? Are families and teachers participating and benefiting comparably across racial and ethnic groups?
How?	What core pathways does ParentCorps use to promote young children's health and development (mapping links from the refined theory of action, which specifies essential program elements and aspects of adult capacity that promote child outcomes)?
In what settings?	What unique strengths and challenges across different pre-K settings may require adaptations to help ParentCorps fit into the context?
Optimizing reach and impact	As ParentCorps offers a portfolio of tools, unbundled program elements, and digital adaptations to meet social-emotional and family engagement needs, what is the uptake, use, and perceived benefit? What innovations are needed?
Ensuring fidelity and quality at scale	What empirical thresholds for implementation fidelity and quality are sufficient for ParentCorps to produce meaningful benefits for children?

we'll strive to build upon our foundational RPP experience: we'll engage in new partnerships in new cities in the United States and globally, and we'll share critical knowledge to help more EBIs successfully scale in large public systems, in the service of children and families. To guide this work, we established a learning agenda with a series of questions, many of which can be answered from the RPP-led activities in NYC and can contribute to advances in implementation and dissemination science in education (see table 2).

In 2020, the ParentCorps team completed a strategic growth plan for scaling ParentCorps nationally. This planning process built on the many lessons we learned through our RPP in New York City, including the nuts and bolts needed to work toward transformative scale in large urban school districts, the importance of engaging key community partners to advance the learning and the need for value-aligned partners throughout the public system, especially in terms of equity, evidence and excellence.

Final Thoughts

A strategic plan is a critical step in RPPdriven scaling. After developing the initial plan together, the partners need to keep thinking strategically throughout its implementation. This means paying attention to the many factors that affect scaling, and adjusting the strategy as necessary. The first version of the RPP scaling strategy can quickly become obsolete as circumstances change, or because of the emergence of factors you didn't adequately consider in the planning process. But the initial plan, with its shared set of understandings and guiding principles, is the foundation for the adjustments to be made intentionally by the partnership as scaling proceeds.

The RPP scaling of ParentCorps, conducted in this country's largest school district and early childhood education system even during an unprecendented pandemic, provides an example of how this approach can advance opportunities and outcomes for children and families of color from historically disinvested neighborhoods.

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