Executive Summary

Early care and education experiences characterized by supportive and responsive teacher–child interactions, as well as organized and stimulating environments, are critical for infants and toddlers. During these early years, children depend on relationships with adults for healthy development, and they are sensitive to environmental influences.[2,3,4,5,6] The quality of relationships and experiences during these early years can have lifelong effects on children.[7,8,9]

Early Head Start programs may offer center-based, home-based (home visiting), or combination of center-based and home-based services to children and families. The Head Start Program Performance Standards (HSPPS) require center-based and family child care Early Head Start programs to "provide responsive care, effective teaching, and an organized learning environment that promotes healthy development and children's skill growth…".[10] The Early Head Start Family and Child Experiences Survey (Baby FACES) Conceptual Framework further illustrates how the quality of these features might relate to infant and toddler outcomes.[11] In this report, we use this Framework to define the quality of Early Head Start center-based services to include structural and process quality dimensions. Understanding these dimensions of quality in Early Head Start classrooms can help inform training and technical assistance, professional development, and other quality improvement efforts.

> ## Overview of Baby FACES study
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> The Early Head Start Family and Child Experiences Survey (Baby FACES) is a nationally representative, descriptive study of Early Head Start. It was designed to inform national program planning, technical assistance, and research by providing descriptive information about (1) the quality, frequency, and intensity of Early Head Start services; (2) the characteristics, qualifications, and professional supports of the Early Head Start staff; (3) the characteristics of the children and families served; and (4) how Early Head Start children and families are faring in key areas of well-being. It also allows for exploration of associations between the type and quality of Early Head Start services and child and family well-being.
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> Baby FACES uses a repeated cross-sectional approach to get a comprehensive snapshot of Early Head Start with a nationally representative sample of programs, centers, home visitors, teachers and classrooms, and enrolled families and children in Office of Head Start (OHS) Regions I through X[1]

To add to the knowledge base about Early Head Start classroom quality and to identify possible improvements that might better prepare infants and toddlers for success when they enter school, this report provides a descriptive snapshot of overall quality in Early Head Start classrooms. The report draws on data from a single time point, collected in 2018, from a nationally representative sample of Early Head Start programs, centers, teachers and classrooms, and enrolled families and children in Office of Head Start Regions I through X. The report explores classroom processes and teacher–child relationships in depth, using multiple observation-based measures of classrooms and teachers and teacher-report measures. The report also describes other aspects of classroom quality and the context of Early Head Start classrooms, using data collected from teacher reports on children's development and surveys of children's parents, teachers, and center and program directors. Moreover, we examine how classroom practices and other aspects of classroom quality are associated with teacher–child relationships, and whether teacher–child relationships in Early Head Start are associated with infant and toddler outcomes. Analyses are weighted to represent all Early Head Start children and families receiving center-based services and their classrooms, teachers, centers, and programs. However, because the study collected the data before the COVID-19 pandemic, the findings may not be generalizable to the current Early Head Start context.

This report addresses five research questions:

1. Who are the children and families in Early Head Start center-based programs, what services do they receive, and who are their teachers?
2. What is the structural quality of Early Head Start classrooms?
   a. What are the qualifications, teaching experience, and beliefs about infant and toddler care and education of Early Head Start teachers?
   b. What are the features of and practices used in Early Head Start classrooms?

3. What is the quality of teacher–child and parent–teacher interactions and relationships in Early Head Start classrooms?
4. How are classroom practices and other aspects of classroom structural quality associated with teacher–child interactions and relationship quality?
5. Is the quality of teacher–child interactions and relationships associated with infant and toddler outcomes?

Box ES.1. Overview of key measures used for this report

Teacher–child relationship quality. The Early Head Start Family and Child Experiences Survey 2018 (Baby FACES 2018) documented the processes that support teacher–child relationship quality using two observational measures of teacher–child interactions in each classroom: (1) the Classroom Assessment Scoring System (CLASS), including the CLASS-Infant[12,13] and the CLASS-Toddler,[14] and (2) the Quality of Caregiver–Child Interactions with Infants and Toddlers (Q-CCIIT).[15] Two trained observers rated classroom quality for each classroom during the same observation period, with one observer using the CLASS and the other observer using the Q-CCIIT. In addition, teachers reported on their relationships with each child in the sample using the Student–Teacher Relationship Scale, Short Form (STRS-SF).[16]

The CLASS and the Q-CCIIT measured classroom quality more broadly because the classroom was the focus of measurement, and the observations included all adults who provided direct care during the observation period; the STRS-SF focused on the child's relationship with the teacher who made the ratings.

Parent–teacher relationships. Baby FACES 2018 assessed parent–teacher relationships using the Cocaring Relationship Questionnaire–Adapted (CRQ-Adapted)[17] and the Quality of Parent–Teacher Relationship measure from the National Center for Early Development and Learning (NCEDL) Teacher-Student Report.[18] Teachers completed both measures for the parents of sampled children in their classrooms. The parents of sampled children also responded to the CRQ-Adapted.

Teacher beliefs about infant and toddler care and education. Baby FACES 2018 assessed teacher beliefs using the Teacher Beliefs About Infant and Toddler Care and Education measure[19] in the teacher survey.

Continuity of care practices. Baby FACES 2018 adapted items from a short instrument used in a recent study[20] to measure continuity of care in Early Head Start classrooms. Center directors reported about the use of continuity of care practices.

Infant and Toddler outcomes. Teachers reported on children's language and communication using the MacArthur-Bates Communicative Development Inventories (CDI)[21] and social and emotional development using the Brief Infant Toddler Social Emotional Assessment (BITSEA)[22].

Research Question 1: Who are the children and families in Early Head Start center-based programs, what services do they receive, and who are their teachers?

Early Head Start programs. About one-quarter of Early Head Start programs offer only center-based services, and two-thirds offer center-based and home-based service options to infants and toddlers and their families.

Early Head Start classrooms and teachers. About half of Early Head Start centers have mixed-age classrooms. About 17 percent of classrooms serve primarily infants and 83 percent of classrooms serve primarily toddlers. On average, teachers reported seven children enrolled in each infant classroom and eight children in each toddler classroom. Children spend about 7.7 daily hours in an infant classroom or 7.4 hours in a toddler classroom, on average. Nearly half of infant classrooms and 56 percent of toddler classrooms have two or more lead teachers or co-teachers. Early Head Start teachers are ethnically and linguistically diverse. English is the primary language used in 86 percent of Early Head Start classrooms. Spanish is also used in almost half of the classrooms.

Children and families in Early Head Start centers. Most children (79 percent) receiving center-based services are age 3 or younger. Eight percent of children are 12 months or younger. Children receiving center-based Early Head Start services are ethnically and linguistically diverse. About one-third of the children are Hispanic or Latino, and one-third are non-Hispanic Black or African American. Two of every five families speak a language

other than English in their household. A majority of Early Head Start children live in low-income homes. The median household income in the past year for families in Early Head Start centers is $22,346. Slightly more than 3 of every 5 children's households have incomes below 100 percent of the federal poverty guideline, with an additional 16 percent between 100 and 130 percent of the poverty level. Early Head Start also serves children with special needs, such as infants and toddlers with disabilities or in foster care.

Research Question 2: What is the structural quality of Early Head Start classrooms?

Teacher qualifications. Early Head Start teachers' qualifications, on average, exceed the HSPPS requirements (Exhibit ES.1). More than half of infant and toddler teachers have at least a college degree, and most degrees focus on early childhood education or infant and toddler development. Teachers without a postsecondary degree are more likely to have a Child Development Associate credential than a certification or license.

Exhibit ES.1. Qualifications of Early Head Start teachers
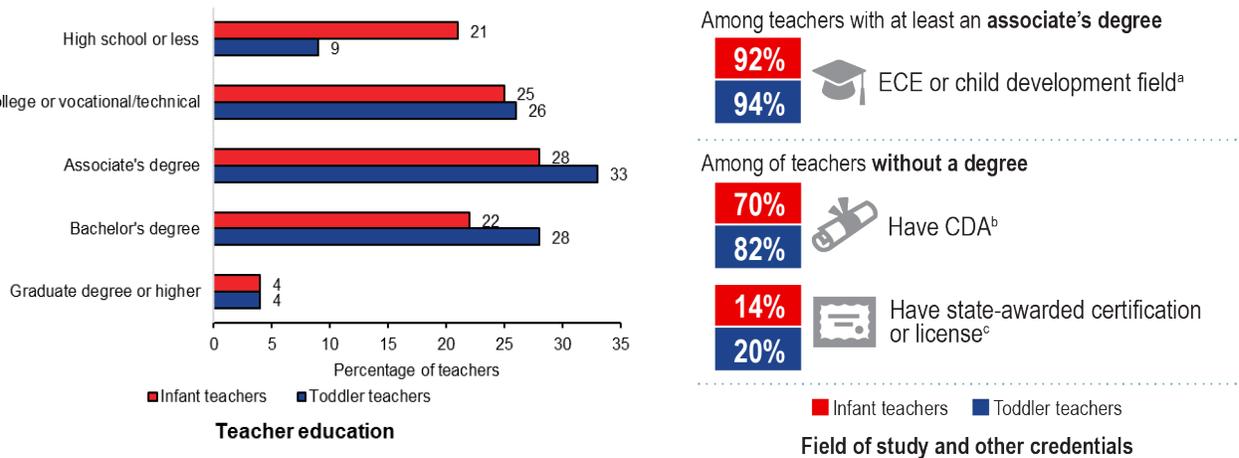
Source: Spring 2018 Baby FACES Staff (Teacher) Survey.
Note: Statistics are weighted to represent all Early Head Start teachers. The unweighted sample sizes for teacher education are 148 infant teachers and 704 toddler teachers.

[a] Among teachers with an associate's degree or higher who responded to the question (the unweighted sample sizes are 84 infant teachers and 465 toddler teachers).

[b] Among teachers with less than an associate's degree who responded to the question (the unweighted sample sizes are 64 infant teachers and 235 toddler teachers).

[c] Among teachers with less than an associate's degree who responded to the question (the unweighted sample sizes are 58 infant teachers and 226 toddler teachers).

CDA = Child Development Associate; ECE = early childhood education.

Teacher experience and teacher beliefs about infant and toddler care and education. Early Head Start teachers are experienced in teaching infants and toddlers. Teachers, on average, hold developmentally appropriate, evidence-based beliefs about infant and toddler care and education.

Use of curricula and child assessments in Early Head Start classrooms. The HSPPS include requirements for programs to use a research-based curriculum and to conduct standardized and structured assessments of children. Nearly all teachers use at least one curriculum and child assessment, with most using a single, commercially available one. Creative Curriculum is the most commonly used curriculum in Early Head Start classrooms. The Ages and Stages Questionnaire (ASQ), including the social-emotional version, and Creative Curriculum's Teaching Strategies Gold are the most frequently reported assessments used by Early Head Start teachers.
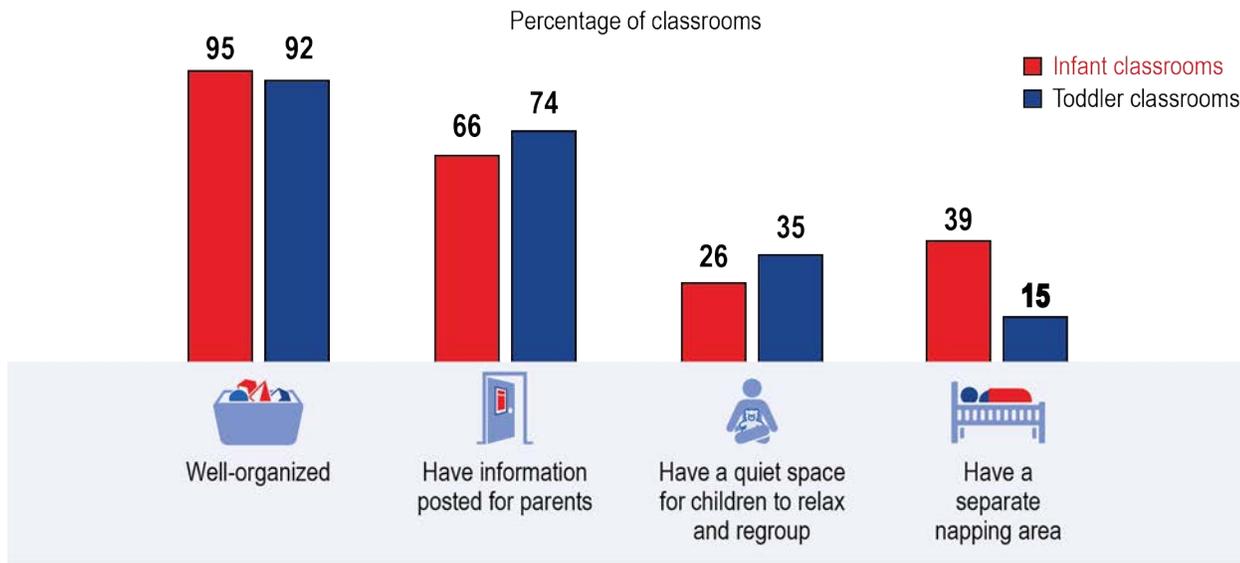
Time spent in child-selected versus teacher-directed activities. Early Head Start classrooms typically devote more time per day to child-selected activities and routine care than to different types of teacher-directed activities.

Child-to-adult ratio and group size. Early Head Start classrooms have group sizes and child-to-adult ratios that meet requirements of the HSPPS. On average, Early Head Start toddler classrooms have an observed group

size of about six children and a child-to-adult ratio of close to three children per adult, with a slightly lower ratio and group size in the infant classrooms than in the toddler classrooms.

Observed classroom features. Observers captured classroom features and practices that might be supportive for responsive relationships (Exhibit ES.2).[23]

Exhibit ES.2. Classroom features in Early Head Start centers

Percentage of classrooms

■ Infant classrooms
■ Toddler classrooms

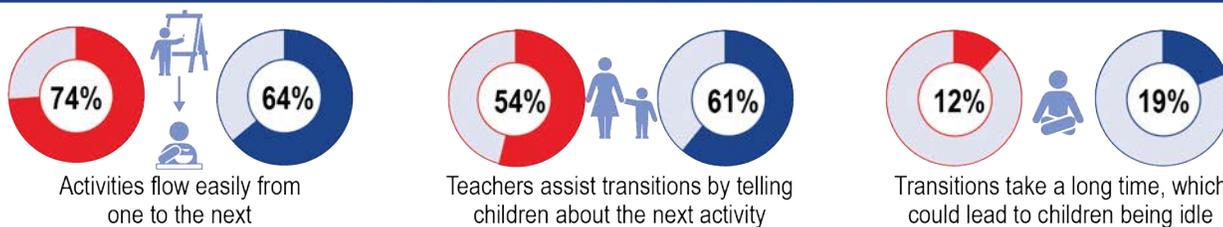|	Well-organized	Have information posted for parents	Have a quiet space for children to relax and regroup	Have a separate napping area
Infant classrooms	95	66	26	39
Toddler classrooms	92	74	35	15

A variety of materials are available to children in the majority of the classrooms.

Out of 5...**infant classrooms have an average of 4.1 types** of materials
and **toddler classrooms have an average of 4.5 types** of materials

Most classrooms have smooth transitions between activities, although some have transitions that take a long time to complete

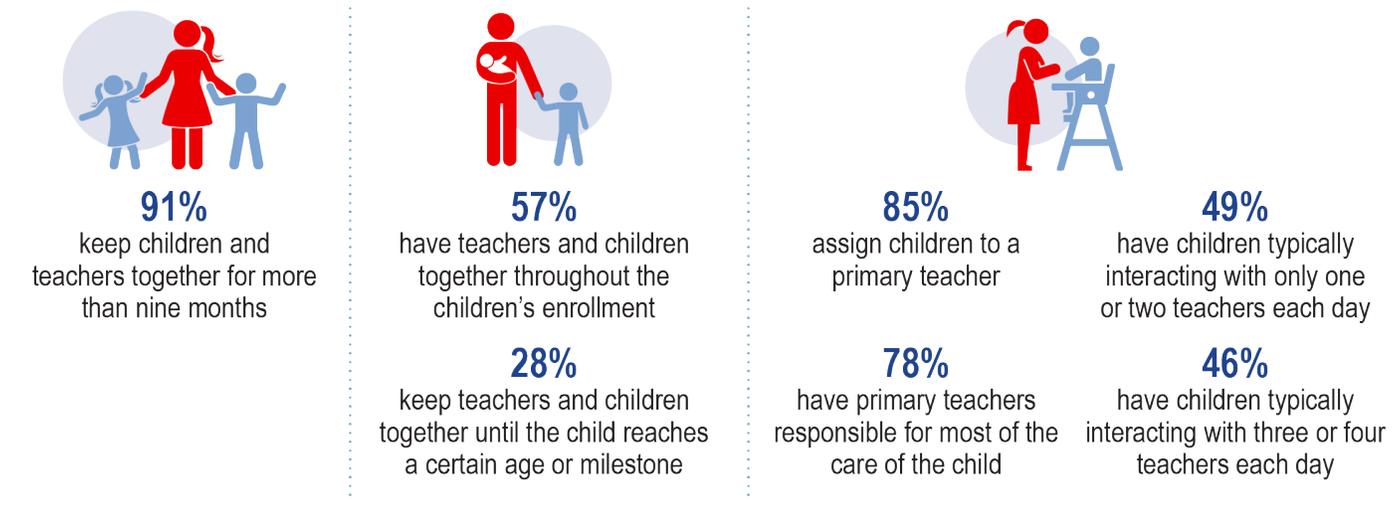| 74%	64%	54%	61%	12%	19%
Activities flow easily from one to the next		Teachers assist transitions by telling children about the next activity		Transitions take a long time, which could lead to children being idle	

Source: Spring 2018 Baby FACES Classroom Observation.
Note: Statistics are weighted to represent all Early Head Start classrooms. The unweighted sample sizes range from 828 to 854 classrooms.

- A large majority of classrooms (95 percent of infant classrooms and 92 percent of toddler classrooms) are well organized.
- About two-thirds of infant classrooms and three-quarters of toddler classrooms have information posted for parents in or near the classroom and/or in the general area.
- A variety of materials are available to children in the majority of classrooms.
- More than one-quarter of infant classrooms and more than one-third of toddler classrooms have a quiet space for children to relax and regroup.
- More than one-third of infant classrooms and less than one-fifth of toddler classrooms have a separate napping area.

- Most classrooms have smooth transitions between activities, although some have transitions that take a long time to complete.

Continuity of care practices. Continuity of care practices are commonly implemented in Early Head Start centers (Exhibit ES.3). Most centers have policies for keeping teachers and children together. More than half of the centers have teachers and children together throughout children's enrollment in the center. Most centers assign children to a primary teacher. In more than three-quarters of the centers, primary teachers are responsible for most of the care of the child. In about half of the centers, a child typically interacts with one or two teachers each day.

Exhibit ES.3. Continuity of care practices in Early Head Start centers

91%
keep children and teachers together for more than nine months

57%
have teachers and children together throughout the children's enrollment

28%
keep teachers and children together until the child reaches a certain age or milestone

85%
assign children to a primary teacher

78%
have primary teachers responsible for most of the care of the child

49%
have children typically interacting with only one or two teachers each day

46%
have children typically interacting with three or four teachers each day

Source: Spring 2018 Baby FACES Center Director Survey.
Note: Statistics are weighted to represent all Early Head Start centers. The unweighted sample sizes range from 432 to 442 Early Head Start centers.

Research Question 3: What is the quality of teacher–child and parent–teacher interactions and relationships in Early Head Start classrooms?

Observed teacher–child relationship quality in Early Head Start classrooms. Generally, Early Head Start classrooms are in the midrange of quality based on classroom observations using the Classroom Assessment Scoring System (CLASS), the Quality of Caregiver-Child Interactions with Infants and Toddlers (Q-CCIIT), and the developers' definitions of scores.

The CLASS-Infant results indicate the average support for early language and learning is in the lower end of the midrange, whereas the average support for positive social and emotional development is in the higher end of the midrange (Exhibit ES.4). On average, toddler classrooms are stronger in support for children's social and emotional development than for language and learning. Using the developer-defined quality range on the CLASS-Infant and CLASS-Toddler domain scores, most (94 percent) of the Early Head Start infant classrooms fall in the midrange of quality in Responsive Caregiving, and all toddler classrooms are of midrange or high range of quality in the Emotional and Behavioral Support domain, with most (85 percent) in the midrange of quality. In contrast, fewer than half (45 percent) of the toddler classrooms are in the midrange of quality in the Engaged Support for Learning domain, and more than half (55 percent) are in the low range.

The Q-CCIIT results also indicate classrooms are strongest in supporting social and emotional development, followed by support for language development. Classrooms are weakest in practices supporting thinking and learning. Most classrooms are in the midrange or high range of quality in Support for Social-Emotional Development (91 percent of infant and 93 percent of toddler classrooms) and Support for Language and Literacy Development (77 percent of infant and 87 percent of toddler classrooms), with the majority in the midrange. In contrast, a lower proportion of classrooms (54 percent of infant and 66 percent of toddler classrooms) are in the midrange or high range of quality in Support for Cognitive Development, with most in the midrange.

Exhibit ES.4. Quality range on the CLASS-Infant and CLASS-Toddler domain scores

Responsive Caregiving in infant classrooms

- 3%
- 94%
- 3%

Emotional and Behavioral Support in toddler classrooms

- 0%
- 85%
- 15%

Engaged Support for Learning in toddler classrooms

- 55%
- 45%
- 1%

Low range 1 to 2.9	Midrange 3 to 5.9	High range 6 to 7

Source: Spring 2018 Baby FACES Classroom Observation.
Note: Statistics are weighted to represent all Early Head Start classrooms. The unweighted sample sizes are 149 infant classrooms and 713 toddler classrooms.

Teacher reports of relationships with children. Early Head Start teachers reported positive relationships with infants and toddlers, with high levels of closeness and low levels of conflict with children.

Parent–teacher relationships. Parents and teachers reported positive relationships with each other.
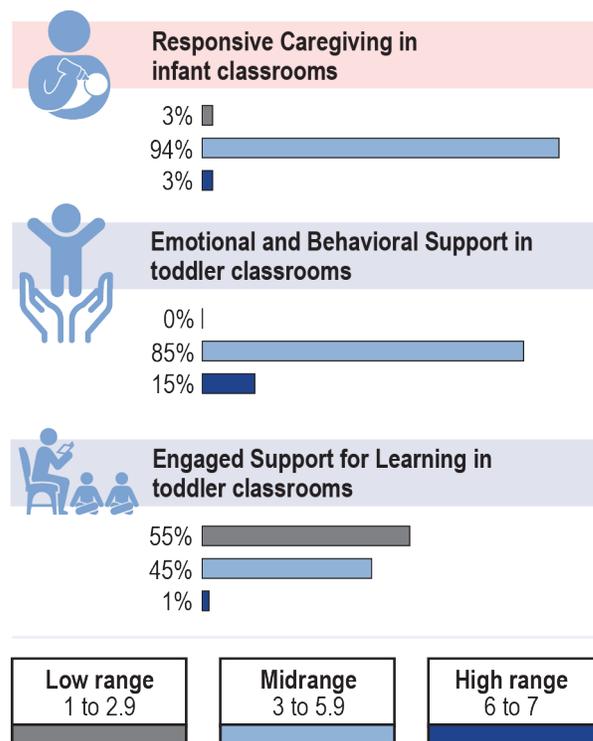
Research Question 4: How are classroom practices and other aspects of classroom structural quality associated with teacher–child relationship quality?

We conducted hierarchical linear modeling (HLM) analyses (separately for infant and toddler classrooms) to examine the factors that might be associated with teacher–child relationship quality, while controlling for teacher, center, and program characteristics. The teacher–child relationship quality measures that we examined include classroom observations of teacher–child interactions (the CLASS and Q-CCIIT) and teacher reports on their relationship with the child (the Student–Teacher Relationship Scale, Short Form [STRS-SF]).

We found the following:

- Some teacher characteristics and classroom practices are associated with teacher–child relationship quality in the expected direction of the association based on prior findings in the literature. These factors with expected associations with teacher–child relationship quality are as follows:

- Classrooms with smooth transitions between activities have higher CLASS-Infant scores, CLASS-Toddler scores, and Q-CCIIT scores in toddler classrooms.

- Classrooms that offer greater variety of materials to children have higher CLASS-Toddler scores.

- Well-organized classrooms have higher CLASS-Toddler and Q-CCIIT scores in toddler classrooms, and lower levels of teacher-reported conflict with children in infant classrooms.

- Higher child-to-adult ratios in the classrooms are associated with lower CLASS-Toddler scores (but unexpectedly, lower levels of teacher reports of teacher conflict with children in toddler classrooms. This latter finding is opposite to the Baby FACES hypothesis).

- Teachers who have at least an associate's degree in early childhood education or a child development field receive higher ratings on Q-CCIIT in toddler classrooms than those who do not have a degree in early childhood education or child development.

- Teachers with higher levels of depressive symptoms have lower Q-CCIIT scores in both infant and toddler classrooms.

- Teachers reporting stronger agreement with beliefs about the importance of relationship and responsiveness have higher CLASS-Toddler scores and reported lower levels of conflict with children in infant classrooms.

- Teachers reporting greater job satisfaction have higher Q-CCIIT scores in toddler classrooms.

- Teachers reporting higher levels of support from parents have higher Q-CCIIT scores in both infant and toddler classrooms, and also reported lower levels of conflict between the teacher and the children in infant classrooms.

- Stronger teacher-reported endorsement of how parents care for their child is associated with lower observed quality for Q-CCIIT in both infant and toddler classrooms and the CLASS-Toddler in toddler classrooms. The Endorsement scale rates the teacher's perception of the parent's patience, attentiveness and devotion to the child. Prior research sometimes found positive associations and sometimes negative associations with this endorsement of parents scale.

- A few factors are associated with at least one of the teacher–child relationship quality measures in a direction opposite to expectations, based on what is reported in other research:

  - Teacher's completion of a bachelor's degree or higher is associated with lower levels of teacher's report of closeness with children in infant classrooms and lower scores in the CLASS-Toddler emotional and behavioral support in toddler classrooms. This might suggest some misalignment between the CLASS ratings and current higher education programs. Future research could also further unpack the finding by looking at whether the link depends on other factors such as teacher's job satisfaction.

  - The teachers' reports of greater coaching support for teacher–child interactions are associated with higher levels of teacher-reported conflict with children in infant classrooms. This might be because teachers who struggle with caring for infants might seek out and receive greater coaching support in this area.

  - Higher levels of continuity of care practices and the teacher's beliefs about the role of the adult in child learning are associated with lower CLASS-Toddler scores on support for learning in toddler classrooms.

- Factors that are not associated with teacher–child relationship quality include teacher having a Child Development Associate (CDA) credential, years of experience in Early Head Start, frequency of receiving support from a coach, teacher receiving training from program on teacher–child interactions, and group size.

Research Question 5: Is the quality of teacher–child interactions and relationships associated with infant and toddler outcomes?

We examined how observed teacher–child relationship quality measures are associated with teacher-reported measures of infant and toddler vocabulary and communicative skills, social and emotional competence and problem behaviors in Early Head Start. We explored whether reaching a specified level of quality (thresholds)

would show a stronger positive association with children's developmental outcomes. We tested thresholds at or near cut points that defined high quality according to measure developers and previous research.

Our analyses reveal few associations between observed quality measures and child outcomes. We did not find any associations in the threshold analysis in either infant or toddler classrooms. We examined linear associations of observed teacher–child relationship quality measures and found no associations for infant classrooms. We found only two associations for toddler classrooms: children in classrooms with higher CLASS-Toddler Emotional and Behavioral Support ratings or higher Q-CCIIT Support for Language and Literacy Development ratings have lower Brief Infant-Toddler Social and Emotional Assessment (BITSEA) Problem scores, on average.

Summary and implications

The findings demonstrate that Early Head Start teachers are highly qualified and experienced with a strong foundation in child care and teaching practices that are developmentally appropriate for infants and toddlers. Nearly all Early Head Start teachers use at least one curriculum and child assessment tool. Group sizes, child-to-adult ratios, and other classroom features lay a foundation for high quality teacher–child relationships in Early Head Start classrooms. The findings also suggest that Early Head Start classrooms provide strong support for children's social and emotional development. Support for language and learning, however, is not as strong as support for social and emotional development. Professional development that builds on strong support for social and emotional development by using responsive interactions focused on supporting language, literacy, and cognitive development could be an effective way to help programs enhance their quality.

Identifying factors associated with teacher–child relationship quality can point to possible ways to support responsive relationships in infant and toddler classrooms in Early Head Start:

- Work to improve classroom quality might need to be coupled with work to improve classroom features and other practices (for example, providing various materials and opportunities for learning and ensuring smooth transitions between activities).
- Programs might want to identify and address staff misconceptions about how to support infant and toddler development and provide training and coaching in evidence-based practices for staff who can benefit.
- Programs might also want to consider ways to address teachers' stress levels and mental health needs and boost their job satisfaction.

The analyses linking teacher–child relationship quality with teacher-reported children's outcomes reveal few associations, which may be a result of the limitations of the data and measurement issues.

The analyses in this report have the following limitations:

- The data used for the analyses represent a single point in time from prior to the COVID-19 pandemic. The data can provide estimates only of concurrent associations of teacher–child relationship quality with teacher background characteristics and classroom features and practices; the data also demonstrate the concurrent associations of relationship quality with infant and toddler outcomes.
- These analyses cannot address causality questions or serve as evidence of program impacts.
- Because of the single time point, we could not control for prior scores on the outcomes of interest in the analyses of the associations with child outcomes. Thus, we only examine associations with developmental status rather than change over time in child outcomes.
- All child outcome measures are based on teacher reports. Teacher reports of child outcomes can be influenced by teachers' observation and assessment skills, interpretations of what is asked, and differences in how leniently they rate children.

Future research should consider the use of experimental or quasi-experimental designs using sensitive and reliable measurements to better understand associations between teacher–child interactions and children's development.