

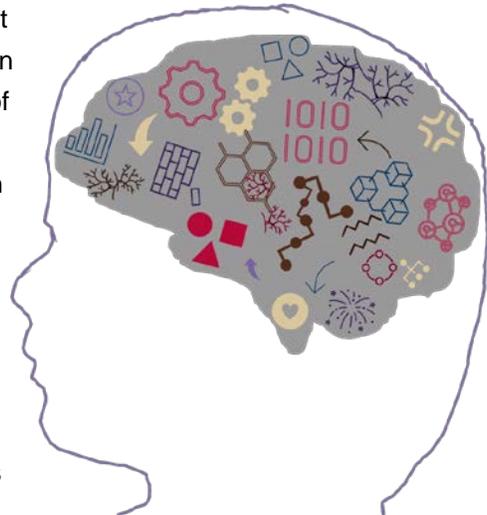
THE ROLE OF TIMING AND LENGTH OF ENROLLMENT IN EARLY CARE AND EDUCATION

Research on Early Learning and Development in the Context of the Educare Learning Network



Development in infancy and early childhood is dramatically shaped by early experiences.^{1, 2, 3} In early childhood, over one million new neural connections are formed every second and early experiences can substantially alter brain architecture and impact learning, behavior, and overall well-being.^{4, 5, 6} Research stemming from diverse disciplines such as psychology, developmental science, neuroscience, and economics has emphasized the fundamental importance of the early years in creating either a sturdy or a fragile foundation for further development and functioning throughout the life course.^{1, 3, 7, 8} *“The question today is not **whether** early experience matters, but rather **how** early experiences shape individual development and contribute to children’s continued movement along positive pathways.”¹*

Early care and education (ECE) programs serve as one of the most common contexts for learning and development in the early years in the United States. In a typical week, it is estimated that over 60% of children under the age of five attend a center-based care arrangement (e.g., child care center, school-based prekindergarten program).⁹ A large body of research shows that participation in center-based ECE programs can foster positive short- and long-term development in children and can be particularly beneficial for children and families from under-resourced communities, buffering the effects of early adversity, reducing early disparities often related to economic hardship and/or race, promoting positive development, and serving as a protective factor in young children’s development.^{10, 11, 12, 13, 14, 15}



Moreover, a higher dosage of high-quality ECE (i.e., starting at younger ages, spending more time in ECE settings) has been shown to have particular developmental benefits for children from low-income families, although findings related to children’s social-emotional outcomes are mixed.^{16, 17} For example, scores on a range of cognitive and language assessments have been found to be highest for children who attended high-quality ECE in both infancy and early childhood as well as for children who attended Head Start programs for two years compared to one year.^{16, 18}

ECE Dosage in the Context of the Educare Learning Network

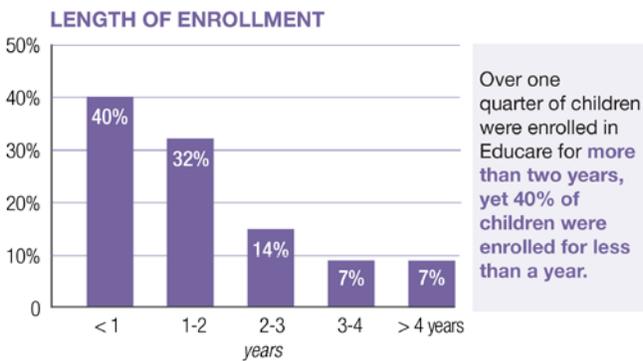
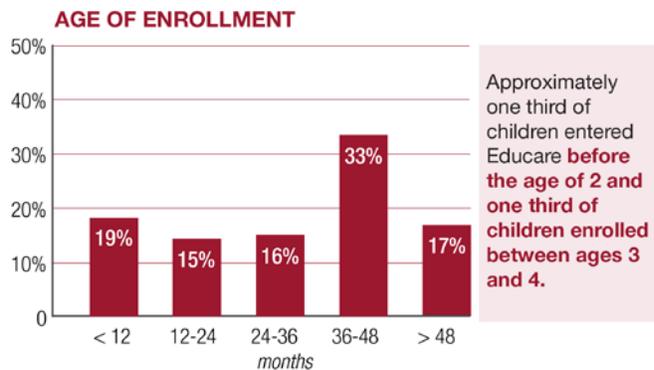
As a growing number of children experience ECE, it has become increasingly important to think about how families are using these programs and the impact on children’s development. Accordingly, a stronger understanding of how timing and amount of ECE are associated with outcomes in young children is essential. As a comprehensive and innovative early education program for children in underserved communities, **Educare** is especially conducive to exploring how a high-quality ECE experience can promote positive development for children from low-income families and give them the best chance to thrive within the classroom and beyond.



What Do We Know About Timing and Length of Enrollment Relative to Children’s Outcomes in Educare Schools?

Timing and Length of Enrollment

Educare data* show that on average, children entered Educare around 32 months of age and spent approximately 1.7 years in the program.



Data Utilization	Embedded Professional Development
High-Quality Teaching Practices	Intensive Family Engagement

WHAT IS EDUCARE?

Educare schools provide full-day, year-round early education for children from six weeks to five years of age and their families from underserved communities. There are currently 25 operating Educare schools in diverse communities across the country, serving nearly 4,000 children and guiding the professional development for over 2,000 early childhood professionals in those schools. Educare schools are Early Head Start, Head Start, and/or public Pre-K providers. All Educare schools leverage public-private partnerships, bringing together local school districts, philanthropic organizations, researchers, policymakers, and families. These dynamic partnerships comprise the Educare Learning Network.

Educare’s comprehensive model is grounded in research and includes four core features: 1) data utilization; 2) embedded professional development; 3) high-quality teaching practices; and 4) intensive family engagement. These features, in the context of strong leadership and community partner linkages, aim to enhance achievement and overall well-being among Educare children and families.



* Based on 12 years of data collected from 2007 to 2019. Some differences exist across Educare schools and school years.

Timing of Enrollment and Children’s Outcomes

In multiple studies, Educare Learning Network researchers have explored whether children’s age and length of enrollment in Educare were related to children’s developmental outcomes.^{19, 20, 21, 22} Specifically, researchers investigated:



Whether children who enrolled in Educare beginning in infancy demonstrated more positive language skills, social-emotional development, and caregiver-child interactions compared to children who did not attend Educare[†].^{19, 20}



Whether age at time of enrollment and length of time in Educare were related to children’s language and social-emotional development[‡].^{21, 22}



Compared to children and families who did not participate in Educare, **children who attended Educare starting in infancy demonstrated the following positive outcomes in early childhood:**^{19, 20}

 <p>HIGHER English language skills at ages 2 & 3</p>	 <p>MORE positive caregiver-child interactions at age 2</p>
 <p>FEWER problem behaviors at ages 2 & 3</p>	 <p>STRONGER early math skills at age 3</p>

Positive results related to **language** and **problem behaviors** were even stronger for dual language learners[§] (DLLs) compared to English-only children at age 3.

[†] Educare Randomized Study data

[‡] Educare National Evaluation data

[§] Educare children who are primarily exposed to a language other than English either prior to or while simultaneously being exposed to English. For additional research evidence from ELN on DLLs, refer to the [Educare Insights brief on DLLs](#).

DATA COLLECTION DETAILS

Each Educare school is part of a research-practice partnership (RPP) with a local evaluation partner. Through these collaborative partnerships, data are collected at the local program level and as part of core studies including the **Educare National Evaluation** and the **Educare Randomized Study** to assess child and family outcomes, staff practices, and program quality in a variety of domains. Researchers and evaluators at each Educare school have been studying implementation and outcomes since 2007 to document:

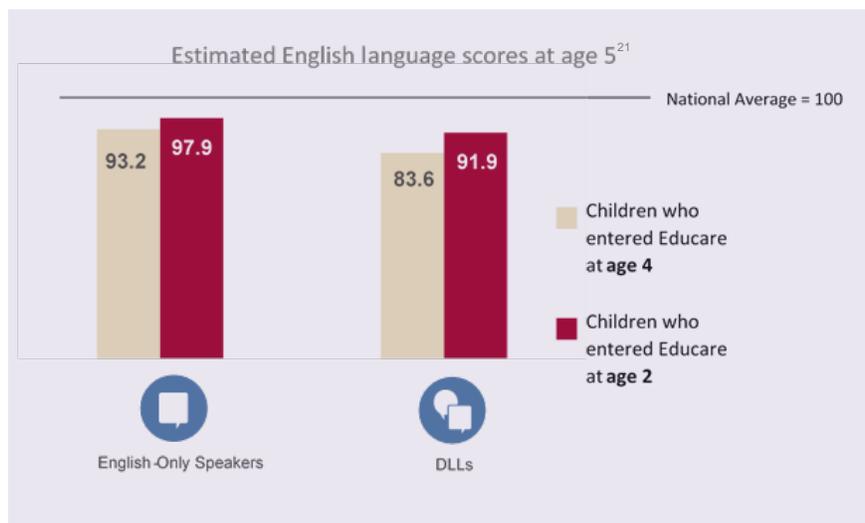
- core features of the Educare model
- unique local features
- dosage, intensity, content, and quality of child and family services
- child and family outcomes
- progress over time

As part of the **Educare National Evaluation**, cross-site semi-annual/annual assessments of children’s language, literacy, and social-emotional skills are completed.

In the **Educare Randomized Study**, children and families were randomly assigned to a group that received Educare services or to a group that did not attend Educare but instead received ECE-related resources and had the option to enroll in other care settings. Children’s outcomes were assessed a year later when children were approximately 2 years old and again at ages 3 and 5.



Children who entered Educare at younger ages scored higher on assessments of English language compared to children who entered Educare later.^{21, 22} Moreover, earlier entry was particularly beneficial for the English language development of DLLs. **Study findings provided mixed results related to children’s social–emotional skills.** One study found lower teacher ratings of children's initiative and more behavioral concerns for children who entered at younger ages²¹ whereas another study found higher ratings of initiative and no differences in behavioral concerns when comparing children who entered Educare as toddlers to those who entered as preschoolers.²² Both studies showed that children who entered earlier had lower ratings of self-regulation (yet still within normal ranges).



Length of Enrollment and Children’s Outcomes

Through multiple studies, Educare Learning Network researchers have also explored whether the amount of time that children spent in Educare was associated with children’s developmental outcomes.^{21, 23, 24} To investigate the role that length of enrollment may play in children’s development, researchers examined:

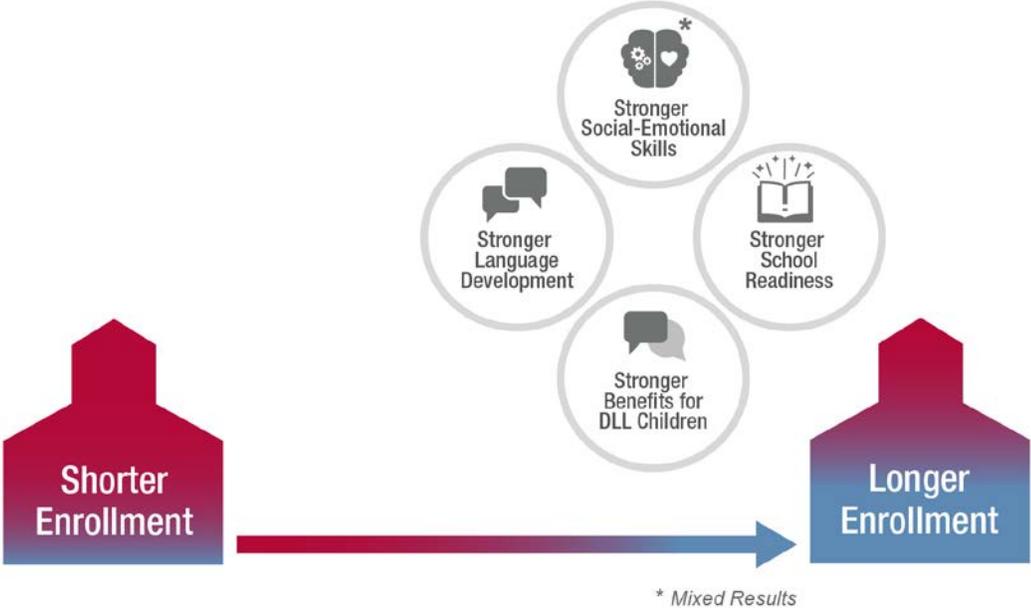
- 1 Whether there were differences in children’s language, social-emotional, and other school readiness skills depending on the length of time that they were enrolled in Educare^{**}.^{21, 23, 24}
- 2 Whether associations between length of time in Educare and children’s outcomes differed for children experiencing differing levels of adversity^{**}.^{23, 24}

^{**} Educare National Evaluation data

EDUCARE

In general, **longer enrollment** in Educare was associated with more positive **language** development, **social-emotional** skills, and **school readiness**. However, study findings provided mixed results specifically in regard to behavioral concerns*, with one Educare study showing fewer concerns ²¹ and another study showing more concerns ^{23, 24} when children were enrolled in Educare for longer periods of time.

Regardless of the number of adversities experienced, **children benefited from longer time enrolled in Educare settings**. These benefits were even stronger for DLL children.^{21, 23, 24}



Summary of Research Findings

Research findings from the Educare Learning Network on the timing and length of Educare enrollment:



Add to research demonstrating the benefits of a higher dosage of high-quality ECE on the development of children living in challenging circumstances.¹⁹⁻²⁴



Reveal that earlier entry in Educare was related to positive English language development for children, especially DLLs.¹⁹⁻²²



Show that longer time spent in Educare was related to children's positive language development and school readiness.^{21,23, 24}



Provide mixed evidence across studies about the relationship between ECE exposure and children's social-emotional outcomes and underscore the need for further research.¹⁹⁻²⁴

IMPLICATIONS AND RECOMMENDATIONS FOR POLICY AND PRACTICE

These findings, together with other research literature exploring ECE dosage in relation to children’s outcomes, offer valuable insights into ECE policies and best practices that have the potential to optimize the learning and development of young children from low-income backgrounds. Below we provide some recommendations for policy and practice initiatives to support the development and success of children in Educare schools and across the wider ECE field.

1 Expand access to high-quality ECE programs for children and families in underserved communities beginning in infancy

Given the particular benefits of high-quality ECE programs for children and families in underserved communities, DLLs, and for children who enroll at younger ages, **it is important to ensure that ECE opportunities reach more families in the earliest stages of children’s development. Some key policy strategies include:**

increasing state and federal investments in early childhood programs, enacting subsidy policies that support infants and toddlers receiving ECE at no to low cost to their families, being intentional about the location or placement of ECE programs, increasing provider reimbursement rates to cover high-quality programming, and offering grants/funding opportunities that prioritize families from underserved communities. Moreover, **strengthening the skills, competencies, compensation, and supports for the well-being of the ECE workforce is key** to increasing the availability and accessibility of high-quality ECE services. Efforts should also be made to **provide families with information** about the benefits of ECE, tools to evaluate program quality, and resources to find and access early childhood programs that meet their needs.



2 Promote long-term participation and continued enrollment in high-quality ECE programs

ECE programs should **develop engagement strategies that work to retain and build meaningful connections with families**, especially DLL families, given the benefits of continued participation in ECE programs for this population. Staff should engage families in their children’s learning, include families in the school community and decision



making, deliver culturally relevant engagement activities, and make efforts to address families' diverse needs. In addition, **supporting staff retention, building workforce capacity, and providing staff training and professional development opportunities** can further motivate families' continued enrollment through continuity of care and improved program quality. The **institution of strong child care assistance policies** that help families afford high-quality ECE and minimize loss of assistance/eligibility due to employment or administrative issues is also imperative in promoting sustained ECE participation. Moreover, **providing comprehensive wraparound services in ECE settings** (e.g., medical, mental health, dental) could further support families' continued enrollment.

3 Conduct additional research and integrate more evidence-based social-emotional programming and learning opportunities in ECE settings

Given that evidence linking higher ECE dosage and children's behavioral outcomes is mixed, there is a **critical need for additional research** in this area. Moreover, measures and data collection tools should be reviewed with a **focus on racial and ethnic equity** in order to minimize bias. Efforts should also be made **to identify how ECE programs can better target and foster children's social-emotional skills** and should do so with a culturally responsive lens and understanding of the role of implicit bias. Specific social-emotional curricula, modifications to the ECE environment, and awareness of children's and families' unique backgrounds, experiences, and abilities are some evidence-based strategies to support healthy social-emotional development in children. Moreover, **helping staff develop social-emotional teaching strategies, incorporating trauma-informed services, ensuring supportive and sensitive interactions with providers, and involving families** in building children's social-emotional strengths could be particularly beneficial.



NETWORK SPOTLIGHT:

Highlighting one example of outstanding practice or innovation in the Educare Learning Network

PARENT AMBASSADORS PROGRAM

The Parent Ambassadors Program was established by the Washington State Association of Head Start/ECEAP* (WSA) and is a leadership, advocacy, and peer-to-peer training program for parents with children under the age of eight. As part of this parent-led leadership and organizing effort, selected families participate in a year-long intensive relationship building and training program and engage in advocacy work related to children and families at the local, state, and national levels. Their policy and advocacy efforts focus on a range of issues and services from early learning to housing, employment, and voting. To date, six Educare schools are involved with Parent Ambassadors in their local communities and/or states including Educare Central Maine, Educare Denver, Educare Flint, Educare Miami, Educare Seattle, and Educare West DuPage.

The policy and advocacy efforts of the WSA Parent Ambassadors Program, in combination with Educare data, have played a critical role in expanding families' access to ECE and enabling them to stay enrolled in ECE programs longer if they choose. For example, since the program launched in 2009, Parent Ambassadors alongside other local advocacy organizations have played a role in substantially increasing the number of children participating in ECEAP*, stabilizing child care subsidies to ensure the continuation of ECE services amidst shifts in parental employment, expanding ECE eligibility for student parents and access to high-quality early learning for children in the child welfare system, and maintaining parent and family engagement components of Early Head Start and Head Start programs. These essential policy changes promote long-term participation and continued enrollment in ECE programs and have helped to expand access to ECE for families in Washington and across the country. Moreover, these key accomplishments greatly contribute to ongoing efforts to ensure that high-quality ECE opportunities reach more young children and retain and build meaningful connections with families in ECE settings, including in Educare schools.



**Early Childhood Education and Assistance Program funded by Washington State*

REFERENCES

- ¹ National Research Council. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: The National Academies Press.
- ² Lamb, M. E., Bornstein, M. H., & Teti, D. M. (2002). *Development in infancy: An introduction* (4th ed.). New York: Lawrence Erlbaum Associates, Inc.
- ³ Sheridan M., & Nelson C. A. (2009). Neurobiology of fetal and infant development: Implications for infant mental health. In C.H. Zeanah (Ed.), *Handbook of infant mental health* (3rd ed.) (pp. 40-58). New York: Guilford Press.
- ⁴ Center on the Developing Child. (2007). *The science of early childhood development (InBrief)*. Retrieved from www.developingchild.harvard.edu
- ⁵ National Scientific Council on the Developing Child. (2007). *The timing and quality of early experiences combine to shape brain architecture: Working paper #5*. Retrieved from <http://www.developingchild.net>
- ⁶ Center on the Developing Child. (2017). *Five numbers to remember about early childhood development*. Retrieved from <https://earlysuccess.org/sites/default/files/Five-Numbers-toRemember-About-Early-Childhood-Development-updated.pdf>
- ⁷ Heckman, J. J. (2008). The case for investing in disadvantaged young children. In First Focus (Ed.), *Big ideas for children: Investing in our nation's future* (pp. 49-58). Washington, DC: First Focus.
- ⁸ Tierney, A. L., & Nelson, C. A. (2009). Brain development and the role of experience in the early years. *Zero to Three, 30*(2), 9-13.
- ⁹ Cui, J., & Natzke, L. (2020). Early childhood program participation: 2019 (NCES 2020-075). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2020075>
- ¹⁰ Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children, 5*, 25-50.
- ¹¹ Karoly, L. A., Kilburn, M. R., & Cannon, J. S. (2005). *Early childhood interventions: Proven results, future promise*. Santa Monica, CA: RAND.
- ¹² Duncan, G. J., & Magnuson, K. (2013). Investing in preschool programs. *Journal of Economic Perspectives, 27*, 109-132.
- ¹³ Evans, G. W., & Kim, P. (2013). Childhood poverty, chronic stress, self-regulation, and coping. *Child Development Perspectives, 7*(1), 43-48.
- ¹⁴ Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist, 59*(2), 77-92.

- 15 Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, 112(3), 579-620.
- 16 Zaslow, M., Anderson, R., Redd, Z., Wessel, J., Tarullo, L., & Burchinal, M. (2010). *Quality dosage, thresholds, and features in early childhood settings: A review of the literature*, (OPRE 2011-5). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families; U.S. Department of Health and Human Services.
- 17 Li, W., Farkas, G., Duncan, G. J., Burchinal, M. R., & Vandell, D. L. (2013). Timing of high-quality child care and cognitive, language, and pre-academic development. *Developmental Psychology*, 49(8), 1440-1451.
- 18 Wen, X., Leow, C., Hahs-Vaugh, D. L., Korfmacher, J., & Marcus, S. M. (2012). Are two years better than one year? A propensity score analysis of the impact of Head Start program duration on children's school performance in kindergarten. *Early Childhood Research Quarterly*, 27, 684-694.
- 19 Yazejian, N., Bryant, D. M., Hans, S., Horm, D., St. Clair, L., File, N., & Burchinal, M. (2017). Child and parenting outcomes after 1 year of Educare. *Child development*, 88(5), 1671-1688.
- 20 Yazejian, N., Bryant, D. M., Kuhn, L. J., Burchinal, M., Horm, D., Hans, S., File, N., & Jackson, B. (2020). The Educare intervention: Outcomes at age 3. *Early Childhood Research Quarterly*, 53, 425-440.
- 21 Yazejian, N., Bryant, D., Freel, K., & Burchinal, M. (2015). High-quality early education: Age of entry and time in care differences in student outcomes for English-only and dual language learners. *Early Childhood Research Quarterly*, 32, 23-39.
- 22 Hong, S. L., Yazejian, N., & Bryant, D. (under review). Is starting earlier better? A propensity score analysis of toddler year impacts for English only and Spanish-speaking dual language learners.
- 23 Guss, S. S., Jones-Harden, B., Stein, A., Yazejian, N., & Forestieri, N. (2016). Associations of adversity to indicators of child well being in a high quality early education context. *NHSA Dialog*, 19(2).
- 24 Guss, S. S., Jones-Harden, B., Yazejian, N., Weeden, S., & Ladner, J. (2016). Addressing adversity to support family and child well being. *NHSA Dialog*, 19(2).

Suggested citation:

Katz, R. C., & Stein, A. G. (2020). *The role of timing and length of enrollment in early care and education: Research on early learning and development in the context of the Educare Learning Network*. Educare Learning Network, Start Early.

The Educare research findings summarized in this brief are based on the following peer-reviewed research papers:

Yazejian, N., Bryant, D. M., Hans, S., Horm, D., St. Clair, L., File, N., & Burchinal, M. (2017). Child and parenting outcomes after 1 year of Educare. *Child Development, 88*(5), 1671-1688.

Yazejian, N., Bryant, D. M., Kuhn, L. J., Burchinal, M., Horm, D., Hans, S., File, N., & Jackson, B. (2020). The Educare intervention: Outcomes at age 3. *Early Childhood Research Quarterly, 53*, 425-440.

Yazejian, N., Bryant, D., Freel, K., & Burchinal, M. (2015). High-quality early education: Age of entry and time in care differences in student outcomes for English-only and dual language learners. *Early Childhood Research Quarterly, 32*, 23-39.

Hong, S. L., Yazejian, N., & Bryant, D. (under review). Is starting earlier better? A propensity score analysis of toddler year impacts for English only and Spanish-speaking dual language learners.

Guss, S. S., Jones-Harden, B., Stein, A., Yazejian, N., & Forestieri, N. (2016). Associations of adversity to indicators of child well being in a high quality early education context. *NHSA Dialog, 19*(2).

Guss, S. S., Jones-Harden, B., Yazejian, N., Weeden, S., & Ladner, J. (2016). Addressing adversity to support family and child well being. *NHSA Dialog, 19*(2).

Please direct questions about these peer-reviewed research papers to:

Noreen Yazejian, Sandra Hong, and Shannon Guss

Please direct questions about the Educare Learning Network or the Educare Insights briefs to our Network team, housed within Start Early (formerly known as the Ounce of Prevention Fund):

Rachel Katz, Senior Research Specialist or Amanda Stein, Director, Research and Evaluation.

We gratefully acknowledge funding support from the Buffett Early Childhood Fund (BECF) and other Network funders supporting research, evaluation, and dissemination. The authors would like to thank our Educare schools including the incredible children, families, leaders, and staff that engage in the Network's research and evaluation as well as the exceptional Network researchers and evaluators, especially those that conducted the research studies cited in this report.