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Child Care Workforce Retention Incentives

Evidence Review Findings: Effective

Child care workforce retention incentives are temporary financial relief provided by the state which are intended to motivate early educators to stay in the field of early childhood education. Rather than increasing wages directly, these retention incentives may be in the form of cash bonuses, tax credits, or scholarship stipends. Rigorous evidence shows that these incentives can effectively reduce teaching staff turnover, which might further promote child care quality and learning outcomes. Current evidence does not provide clear guidance on the best method for states to develop strategies or provide funding to support these workforce retention incentives.

Low wages in the child care and education field are common in the US, particularly among early educators and caregivers working with infants and toddlers. Child care workforce retention incentives can ameliorate the effects of low pay and reduce staff turnover among early educators. Retaining experienced early educators not only can lead to better teacher-child interactions and higher classroom quality but also help build a sustainable workforce.

Decades of research in the field of child development have made clear the conditions necessary for young children and their families to thrive.¹⁹ These conditions are represented by our eight policy goals, shown in Table 1. The goals positively impacted by child care workforce retention incentives are indicated with a filled circle, and the goals theoretically aligned (but without sufficient evidence of effectiveness from strong causal studies) are indicated with an unfilled circle.

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Table 1: Impacts of Child Care Workforce Retention Incentives on Policy Goals

Positive Impact	Policy Goal	Overall Findings
	Access to Needed Services	(Policy goal outside the scope of this review)
	Parents' Ability to Work	(Policy goal outside the scope of this review)
	Sufficient Household Resources	(Policy goal outside the scope of this review)
	Healthy and Equitable Births	(Policy goal outside the scope of this review)
	Parental Health and Emotional Wellbeing	(Policy goal outside the scope of this review)
	Nurturing and Responsive Child-Parent Relationships	(Policy goal outside the scope of this review)
	Nurturing and Responsive Child Care in Safe Settings	Mostly positive impacts on teaching staff retention in early care and education programs
	Optimal Child Health and Development	No strong causal studies identified for this goal

What Are Child Care Workforce Retention Incentives?

Low wages are the norm in the child care workforce. In 2024, median wages were \$13.07 per hour for child care educators (caring for children ages 0 through 5).¹ These wages are lower than 97 percent of all other occupations and below the living wage for a single adult with no children in every state.¹ Child care educators serving infants and toddlers tend to have the lowest pay, and this wage penalty by age of children served persists regardless of educators' levels of educational attainment.^{1,32}

To ameliorate the effects of low pay, states can implement retention incentives to provide temporary financial relief for early educators. Retention incentives are typically offered for early educators based on tenure, and the amount of the incentive can vary by educational attainment and role.

Examples of retention incentives include:

- Cash bonuses to early educators, a fixed amount delivered as a one-time incentive or on a regular basis (e.g., bi-annually, quarterly), such as the WAGES[®] program;^{1,5} and
- Tax credits to child care staff (directors and teachers), with credits varying in refundability and eligibility (e.g., educators in facilities participating in the state quality rating and improvement system [QRIS] or Early Head Start/Head Start);¹ and

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- c) Scholarship stipends to child care educators pursuing higher degrees or other professional development (fixed dollar amount, usually delivered quarterly or monthly), such as T.E.A.C.H. Early Childhood® scholarships.^{1,6}

Box 1. Wage Supplement Programs

Beyond financial relief strategies (e.g., retention incentives), states may also pursue policies to directly supplement early educator wages. States can establish salary scales that account for an educator's work experience, educational attainment, and role, thus establishing a defined wage floor. Wage supplement programs provide additional income to help early educators reach a defined wage floor.

When established in Fiscal Year 2021, the District of Columbia Pay Equity Fund (PEF) was a cash bonus program that allocated a lump sum payment to early educators.⁵² In Fiscal Year 2024, the program was transformed into a wage supplement program with the goal of achieving pay parity with K-12 educators.⁵² The PEF provides quarterly payments to teachers based on their qualifications, according to established wage floors, which range from \$24.52 to \$36.11 per hour, depending on the role and qualifications.

To date, rigorous research has not examined the effectiveness of wage supplement programs. Because wage supplement programs are directly tied to workforce compensation, which has a broader scope than temporary financial relief, these programs may have different mechanisms than those of workforce retention programs. Therefore, wage supplement programs are not considered within the scope of this evidence review.

Who Is Affected by Child Care Workforce Retention Incentives?

In the US, the child care workforce includes approximately 2.2 million center-based and home-based providers, predominantly women, who are paid to care for and educate more than 9.7 million children between birth and age 5.^{1,i}

Only 1 in every 110 educators earns a living wage in early education and care.^{39,ii} Low wages are a result of a market failure. In April 2024, Prenatal to Five Fiscal Strategies (P5FS) released a report measuring the cost of high-quality child care, referring to the actual expenses needed to provide quality care including but not limited to living wages for staff.^{48,iii} Estimates of the cost of providing quality care for infants and toddlers in center- and home-based care far exceeds what most families can pay for. To accommodate families and remain in the market, child care providers have

ⁱ Child care workforce size was calculated by the Center for the Study of Child Care Employment (CSCCE) from analysis of National Survey of Early Care and Education (NSECE) 2019 data.

ⁱⁱ Statistics are from the US Department of the Treasury, and early childhood education and care is defined as all nonparental care of infants to children 5 years of age.

ⁱⁱⁱ Other costs of care may include facility and material costs and training costs for professional development. P5FS estimated that true cost of care is even higher than what most families can pay for child care.

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an incentive to reduce costs. Because staff wages represent a large portion of the cost of providing care, child care providers must often reduce costs by paying low wages to their staff.

As a result of low wages, over 13 percent of early educators live in poverty, a rate that is approximately six times that of elementary school teachers.^{1,iv} An estimated 43 percent of early educators receive assistance from at least one public safety net program, such as the Earned Income Tax Credit, Medicaid, and the Supplemental Nutrition Assistance Program.^{1,v} Economic insecurity raises substantial mental health concerns among early educators. For example, low pay contributes to high levels of stress, depression, and burnout among the child care workforce.^{39,51}

Although low pay is problematic across the early care and learning workforce, pay disparities exist by race and ethnicity and age of children served. For example, even when holding equivalent educational degrees, Black early educators earn approximately \$8,000 less per year than White early educators.¹ Additionally, a pay penalty for working with children under age 3 persists. Early educators working only with children under age 3 are paid, on average, \$8,000 less per year than those only working with children ages 3 to 5.¹

What Are the Funding Options for Child Care Workforce Retention Incentives?

Funding for child care workforce retention incentives can come from both public and private sources. Funding sources depend on the nature of the retention policies. For example, tax credits for early educators can only come from public funding sources, but financial support from private sources may help a state to establish a cash bonus program.

Federal programs like the Child Care and Development Fund (CCDF), Head Start, and Preschool Development Grants Birth-Five (PDG B-5) are important sources of funding for early care and education broadly and support workforce compensation.^{1,9,10}

The historic influx of pandemic relief funds through the American Rescue Plan Act (ARPA; Public Law 117-2) in 2021 allowed states to support their child care workforce unprecedentedly.^{35,36} Using ARPA funds, states issued stabilization grants to support the child care workforce.^{37,38} Many states used these grants to pay child care providers who otherwise could not remain open due to the pandemic, and more specifically, to temporarily raise wages for early educators to acknowledge their work during an extremely difficult time.^{C,44,50}

States can also make direct investment in their child care workforce through state general funds, state pre-K funds, and state funds from a payroll tax or other sources of revenue (e.g., tobacco and lottery taxes).^{53,54} When ARPA expired at the end of 2024, at least nine states^{vi} continued these grants at the state level after the federal relief funding ended.⁵⁵

^{iv} The statistics were calculated by the Center for the Study of Child Care Employment (CSCCE) from analysis of American Community Survey public use microdata.

^v The estimate was calculated by the University of California-Berkeley Center for Labor Research and Education.

^{vi} These nine states are: KS, MA, MN, MD, MS, NY, OH, TX, and WV.

Why Should Child Care Workforce Retention Incentives Be Expected to Impact the Prenatal-to-3 Period?

High-quality child care is characterized by stable, nurturing caregiver-child interactions.⁵⁶ Within a stable environment, young children can bond with their teacher. This positive, nurturing, bonding experience helps children form secure relationships with their teacher, which further promotes their brain development in early years.¹³ However, high-quality child care does not exist without a stabilized child care workforce.

A recent survey of child care providers across the country found the annual early education staff turnover rate was approximately 30 percent.⁵⁷ High staff turnover jeopardizes the bond between a child and their teacher. Disruptions in bonds between a child and caregiver may exacerbate children's social, emotional, and behavioral problems,⁵⁸ which may further lead to long-term concerns for children's school readiness and health issues.^{59,60}

In contrast, low turnover can foster stable, positive connections between early educators and children, and better teacher-child relationships will further improve classroom quality and learning environments,^{15,vii} which in turn can lead to optimal child cognitive and social-emotional outcomes.^{14,15} Often-cited observational research suggests that higher teacher compensation is associated with higher ratings on measures of classroom quality,^{viii} and this association is generally true for infant and toddler classrooms.^{11,12,23}

Additionally, without having to constantly rehire and onboard new staff, child care programs can dedicate more time and resources to support teachers' professional development, which may further motivate early educators to stay in the field of early education. A stable workforce can also ensure child care facilities stay open and allow early educators to build expertise over time.

Therefore, investment in retaining the child care workforce is crucial. Cash bonuses, tax credits, and scholarship stipends can help retain current staff at child care programs by creating financial returns to remaining in their role and field. By increasing compensation, retention incentives can alleviate financial stress, which in turn increases their job satisfaction and overall wellbeing.^{16,17,18}

Higher pay makes early educators, especially educators with higher qualifications, feel valued and respected, which in turn reinforces their professional identity and career passion.⁶¹ Without these retention incentives, low pay in early education can discourage child care educators from remaining in the field because of better paying alternatives in other fields.⁴⁷

^{vii} Positive teacher-child interactions are typically measured by observed interactions demonstrating warmth, sensitivity, and responsiveness, among other factors. Classroom quality is typically defined by observed classroom experiences and includes teacher behaviors, positive climates, and facilitation of learning and development.

^{viii} Classroom quality is operationalized using an observed measure of quality, most frequently overall scores on the Infant/Toddler Environment Rating Scale (ITERS) or the Early Childhood Environment Rating Scale (ECERS) or their relevant subscales (e.g., developmentally appropriate activities).

What Impact Do Child Care Workforce Retention Incentives Have, and for Whom?

Theoretically, workforce retention incentives can improve outcomes related to nurturing and responsive child care in safe settings and optimal child health and development. Several rigorous research studies have evaluated the impact of child care workforce retention incentives. Most rigorous evidence is limited to cash bonuses. These studies examined the effectiveness of cash bonus programs and demonstrate beneficial outcomes on teaching staff retention. More research is needed to understand the impact of tax credits and scholarship stipend programs.

The research discussed here meets our standards of evidence for being methodologically strong and allowing for causal inference, unless otherwise noted. Each strong causal study reviewed has been assigned a letter, and a complete list of causal studies can be found at the end of this review, along with more details about our standards of evidence and review method. The findings from each strong causal study reviewed align with one of our eight policy goals from Table 1.

The Evidence of Effectiveness table (Table 2) displays the findings associated with child care workforce retention incentives (beneficial, null,^{ix} or detrimental) for each of the strong studies (A through E) in the causal studies reference list. For each indicator, a study is categorized based on findings for the overall study population; subgroup findings are discussed in the narrative. Table 2 also includes our conclusions about the overall impact on each studied policy goal. The assessment of the overall impact for each studied policy goal weighs the timing of publication and relative strength of each study, as well as the size and direction of all measured indicators.

Four out of five studies included in this evidence review examined the impact of cash bonus programs. These studies evaluated the effectiveness of state programs (i.e., Missouri Workforce INcentive Project, Virginia Teacher Recognition Program, District of Columbia Pay Equity Fund) on teaching staff retention in early childhood. One study examined the impact of statewide workforce retention programs, including cash bonuses, tax credits, and scholarship stipend programs, by comparing states that had implemented at least one retention program to states that had none.

Of the five causal studies included in this review, none examined how outcomes differed by race or ethnicity (beyond simply presenting summary statistics or controlling for race/ethnicity). A rigorous evaluation of a policy's effectiveness should consider whether the policy has equitable impacts and should assess the extent to which a policy reduces or exacerbates pre-existing disparities in economic and social wellbeing.

^{ix} An impact is considered statistically significant if $p \leq 0.05$. Results with p -values above this threshold are considered null or nonsignificant.

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Table 2: Evidence of Effectiveness for Child Care Workforce Retention Incentives by Policy Goal

Policy Goal	Indicator	Beneficial Impacts	Null Impacts	Detrimental Impacts	Overall Impact on Goal
Nurturing and Responsive Child Care in Safe Settings	Teaching Staff Retention	B, C, E	A		Mostly Positive

Note: Study D is excluded from Table 2 because its results are duplicative of Study E.

Nurturing and Responsive Child Care in Safe Settings

Five strong causal studies have examined the impact of retention incentives for early educators on child care outcomes, and the findings are mostly positive.

One study, which focused on the effects of QRIS on families and children, also examined the impact of workforce retention programs. The study compared states that had implemented QRIS only, QRIS and a workforce retention program, and a workforce retention program alone, to states that had neither program.^B Statewide workforce retention programs examined by this study included cash bonuses, tax credits, and scholarship stipend programs.

Results show that states with a retention program alone had lower job separation^x and turnover rates^{xi} compared to states with neither a retention program or QRIS in place.^B States with both QRIS and retention programs had improved turnover rates but showed no significant impact on job separation rates when compared to states with neither program.^B This study also found that retention programs can augment the beneficial impacts of QRIS implementation on child care workforce outcomes. States with both policies in place had significantly stronger outcomes compared to states that had implemented QRIS alone.^B

Another study examined the effectiveness of the Virginia Teacher Recognition Program (TRP), which was a one-time cash bonus program that provided early educators up to \$1,500 if they committed to their employment for an 8-month period.^C Results show 25 percent of early educators had turned over by the end of the 8-month period in the control group. By contrast, only 14 percent of early educators in the TRP group left their centers during this time. In other words, the \$1,500 cash incentive reduced staff turnover by 11 percentage points.^C

Two studies examined the effectiveness of the District of Columbia (DC) Pay Equity Fund (PEF), and both found beneficial impacts.^{D,E} The original program implementation of PEF gave a one-time bonus of \$14,000 for lead teachers (\$10,000 for assistant teachers) in DC during the second quarter of 2022. One study shows by the end of 2022, this bonus increased the size of the workforce by approximately 101 early educators, or 3.2 percent of the entire child care workforce in DC.^D

^x Job separation is defined here as the “total number of workers employed at a given firm in the reference quarter who were not employed there in any of the previous four quarters” (p. 180).^A

^{xi} Turnover rates refer to the percentage of employees who leave a given firm and are replaced by new employees.

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A second study examined outcomes after 1 year of PEF implementation, and found the bonus increased the size of the workforce by approximately 219 early educators, or 7.0 percent of the entire child care workforce. Given the typical turnover in child care workforce, increasing the size of the workforce indicates improvement in the workforce retention.^E To not overly represent the positive findings from the PEF from one sample population, only one study (Study E) is included in Table 2.

In contrast to the findings of more recent studies on retention incentives, one older study found null results of a cash bonus program for child care workforce retention. This study used Missouri's Workforce INcentive Project (WIN) to evaluate the impact of center-based child care cash bonuses on teacher turnover rates.^A The annual bonus ranged from \$500 to \$2,500 depending on early educators' educational attainment. Bonuses were disbursed every 6 months for 3 years.

For teaching staff with more than a high-school diploma and staff at certain hourly wage levels, the study found significantly lower turnover rates for those who received the cash bonus in comparison to those that did not receive the bonus.^{A,xii} However, overall teaching staff results indicated only marginally lower turnover with the cash incentive and were not significant.^A Although the authors do not speculate the cause of null results overall, the wide range of bonus size may have attenuated the effect size of the overall finding.

Is There Evidence That Child Care Workforce Retention Incentives Reduce Disparities?

No strong causal research explores the impact of workforce retention incentives on reducing racial/ethnic or socioeconomic disparities, or disparate outcomes for children or for the child care workforce. However, there is evidence of labor market discrimination against women and Black, Indigenous, and people of color, who represent the majority of child care staff and are underpaid in the US labor market.⁴⁰

Over 90 percent of early educators are women, and approximately 36 to 50 percent of the total female child care workforce are women of color, depending on the child care setting.^{1,39} Early care provider demographics, in terms of race and ethnicity, often nearly match those of the children they serve, which is a positive in the field and unique to ages birth-to-5. Research has shown that having teachers who look like their Black, Indigenous, and other students of color benefits all students academically, socially, and emotionally.⁴⁶

^{xii} Results were particularly robust for teaching staff with more than a high-school diploma and more than 5 years of experience ($p < 0.01$). Significantly lower turnover rates were found for teaching staff earning between \$7.20 and \$9.60 per hour who received the biannual cash incentive in comparison to teaching staff that did not receive the incentive. No statistically significant results were found comparing teaching staff earning \leq \$7.20 per hour or $>$ \$9.60 per hour.

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Despite this benefit to children, Black child care educators are especially harmed by low wages. Black early educators earn approximately \$8,000 less per year than their White peers, and the pay disparity may be even greater among those who work with infants and toddlers.^{1,xiii} Additionally, Black, Indigenous, and other people of color, and under-resourced communities often face extra barriers in access to government programs. Data collection protocols on workforce retention programs to support the early child care workforce (e.g., bonuses, tax credits, or stipends) are needed to examine the impact and identify any disparities specific to the access of these programs.^{1,44}

Has the Return on Investment for Child Care Workforce Retention Incentives Been Studied?

No strong causal evaluations have examined the return on investment for increased child care workforce retention incentives, but some observational studies suggest this may be a cost-effective strategy. For example, observational studies that examine the relationship between child care educator wages and turnover suggested that investment in supplemental wages may increase retention, which can result in savings in the long run.^{1,17,23}

What Do We Know, and What Do We Not Know?

Child care workforce retention incentives demonstrate beneficial impacts on teaching staff retention among those serving children during the birth-to-3 period.^{B,C,D,E} However, the evidence on state retention strategies has several limitations that should be addressed by future research.

First, causal studies on workforce retention largely focus on cash bonus programs. Although cash bonuses, along with other types of incentives, may convince early educators to stay in the field temporarily, it is unclear how long the beneficial impact will last.⁶² Retention incentives are not a permanent solution. States also need dedicated funding streams to support these programs. Future research should examine the impacts of broader compensation strategies (e.g., increased salaries and benefits) on the child care workforce and child outcomes.

Second, strong causal research disaggregating infant and toddler teachers and classrooms from preschool teachers and classrooms is needed to improve the evidence base specifically for the birth-to-age 3 population. Though research on children ages birth-to-5 can be useful to understand the impact of child care workforce compensation, the unique challenges and needs of infant and toddler classrooms mean that broader outcomes may not be directly relevant. Building the evidence base on this population specifically will help allow for stronger conclusions.

Third, limited research examines the effects of specific state-level child care workforce retention incentives policies. A closer examination of state policies, including the frequency and threshold of cash bonuses (e.g., what is the optimal frequency and threshold of bonus to retain early educators within a financial budget) will allow for a better understanding of program implementation. We also

^{xiii} Black and Hispanic women have attained college degrees at a lower rate than their White counterparts; reinforcing need for support (e.g., tuition assistance) that may increase levels of educational attainment in the early care workforce and improve the quality of care infants and toddlers receive.⁴⁵

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do not know whether cash bonuses are stronger incentives compared to tax credits and scholarship stipends. More research on policy implementation can provide guidance to states on what the optimal approach is to improving compensation for the child care workforce.

Finally, existing research (causal or otherwise) does not explore direct or indirect pathways (e.g., via child care quality) from child care workforce retention to child outcomes. Further research should assess the effect of child care workforce retention on child outcomes. Workforce retention incentives are thought to retain early educators, which is expected to promote child care quality, resulting in improved child social emotional and cognitive outcomes. Further research should examine these developmental pathways and shed light on how to better support educators and children in the early education system.

Are Increasing Child Care Workforce Retention Incentives an Effective Policy for Improving Prenatal-to-3 Outcomes?

The current evidence base demonstrates the effectiveness of child care workforce retention incentives at promoting nurturing and responsive child care in safe settings in the birth-to-3 period. Research to date has primarily focused on the impacts of cash bonus programs. Further evidence on other retention incentives, such as tax credits and scholarship stipends, are needed. States can leverage federal fund allocations, develop dedicated funding streams, and foster public-private partnership to fund child care workforce retention strategies.

How Did We Reach Our Conclusions?

Method of Review

This evidence review began with a broad search of all literature related to the policy and its impacts on child and family wellbeing during the prenatal-to-3 period. First, we identified and collected relevant peer-reviewed academic studies as well as research briefs, government reports, and working papers, using predefined search parameters, keywords, and trusted search engines. From this large body of work, we then singled out for more careful review those studies that endeavored to identify causal links between the policy and our outcomes of interest, taking into consideration characteristics such as the research designs put in place, the analytic methods used, and the relevance of the populations and outcomes studied. We then subjected this literature to an in-depth critique and chose only the most methodologically rigorous research to inform our conclusions about policy effectiveness. All studies considered to date for this review were released on or before April 1, 2025.

Standards of Strong Causal Evidence

When conducting a policy review, we consider only the strongest studies to be part of the evidence base for accurately assessing policy effectiveness. A strong study has a sufficiently large, representative sample, has been subjected to methodologically rigorous analyses, and has a well-executed research design allowing for causal inference—in other words, it demonstrates that changes in the outcome of interest were likely caused by the policy being studied.

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The study design considered most reliable for establishing causality is a randomized controlled trial (RCT), an approach in which an intervention is applied to a randomly assigned subset of people. This approach is rare in policy evaluation because policies typically affect entire populations; application of a policy only to a subset of people is ethically and logistically prohibitive under most circumstances. However, when available, RCTs are an integral part of a policy's evidence base and an invaluable resource for understanding policy effectiveness.

The strongest designs typically used for studying policy impacts are quasi-experimental designs (QEDs) and longitudinal studies with adequate controls for internal validity (for example, using statistical methods to ensure that the policy, rather than some other variable, is the most likely cause of any changes in the outcomes of interest). Our conclusions are informed largely by these types of studies, which employ sophisticated techniques to identify causal relationships between policies and outcomes. Rigorous meta-analyses with sufficient numbers of studies, when available, also inform our conclusions.

Studies That Meet Standards of Strong Causal Evidence

- A. Gable, S., Rothrauff, T. C., Thornburg, K. R., & Mauzy, D. (2007). Cash incentives and turnover in center-based child care staff. *Early Childhood Research Quarterly*, 22(3), 363–378. <https://doi.org/10.1016/j.ecresq.2007.06.002>
- B. Herbst, C. M. (2018). The impact of quality rating and improvement systems on families' child care choices and the supply of child care labor. *Labour Economics*, 54, 172–190. <https://doi.org/10.1016/j.labeco.2018.08.007>
- C. Bassok, D., Doromal, J. B., Michie, M., & Wong, V. C. (2021). The effects of financial incentives on teacher turnover in early childhood settings: Experimental evidence from Virginia. Virginia Early Childhood Foundation. <https://vecf.org/wp-content/uploads/2021/12/6de6fd54-e921-4c88-a452-ad7cabccc362.pdf>
- D. *Schochet, O. (2023). Jobs in the balance: The early employment impacts of Washington, DC's early childhood educator Pay Equity Fund. *Mathematica*. <https://www.mathematica.org/publications/jobs-in-the-balance-the-early-employment-impacts-of-washington-dcs-early-childhood-educator-pay>
- E. Schochet, O. (2024). Jobs in the balance: the two-year labor market impacts of Washington, DC's early childhood educator Pay Equity Fund. *Mathematica*. <https://www.mathematica.org/publications/two-year-labor-market-impacts-of-washington-dcs-early-childhood-educator-pay-equity-fund>

*Study D is shown with an asterisk because it is excluded from Table 2. Study D included results that are duplicative of Study E (i.e., use the Washington DC Pay Equity Fund data).

Other References

1. Center for the Study of Child Care Employment. (2024). *Early Childhood Workforce Index 2024*. <https://cscce.berkeley.edu/workforce-index-2024/>
2. National Center on Early Childhood Quality Assurance (2019). *Addressing the Decreasing Number of Family Child Care Providers in the United States*. Fairfax, VA: National Center on Early Childhood Quality Assurance. https://childcareta.acf.hhs.gov/sites/default/files/addressing_decreasing_fcc_providers_revised_final.pdf
3. Otten, J. J., Getts, K., Althaus, A., Buszkiewicz, J., Jardim, E., Hill, H. D., Romich, J., & Allard, S. W. (2018). Responding to an increased minimum wage: A mixed methods study of child care businesses during the implementation of Seattle's minimum wage ordinance. *Social Work & Society*, 16(1). <https://www.socwork.net/sws/article/view/538>
4. Smith, L., & Cerulli, J. (2019). The potential effects of a minimum wage increase underscore key flaws in the child care market. <https://bipartisanpolicy.org/blog/the-potential-effects-of-a-minimum-wage-increase-underscore-key-flaws-in-the-child-care-market/>
5. T.E.A.C.H. Early Childhood National Center (n.d.). *Child Care WAGES\$ overview*. Chapel Hill, NC: T.E.A.C.H. Early Childhood National Center. https://teachnationalcenter.org/wp-content/uploads/2014/10/WAGES_overview_FactSht_9_25_18v4.pdf

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6. Early Childhood Scholarships: T.E.A.C.H. Early Childhood National Center (n.d.). T.E.A.C.H. *Early Childhood Overview*. T.E.A.C.H. Early Childhood National Center. https://teachnationalcenter.org/wpcontent/uploads/2014/10/TEACH_overview_FactSheet_10_16_18.pdf
7. Workman, S. & Jessen-Howard, S. (2018). *Understanding the true cost of child care for infants and toddlers*. Center for American Progress. <https://www.americanprogress.org/issues/early-childhood/reports/2018/11/15/460970/understanding-true-cost-child-care-infants-toddlers/>
8. Office of Planning, Research and Evaluation, Administration for Children & Families. (n.d.). *National Survey of Early Care and Education 2019*. <https://acf.gov/opre/project/national-survey-early-care-and-education-2019-2017-2022>
9. Ferrette, T., Girouard, D., Estlund, M., Wilensky, R., Saxena, A., & Schulman, K. (2024). *The Child Care and Development Fund 2024 rule: Detailed summary and state examples*. The Center for Law and Social Policy. https://www.clasp.org/wp-content/uploads/2024/05/2024_CCDF-2024-Rule-Detailed-Summary-and-State-Examples.pdf.
10. Office of Child Care. (n.d.). *Preschool Development Grant Birth Through Five Grant Competition*. <https://www.acf.hhs.gov/occ/resource/pdg-b-5-initiative>. See state plans for additional information.
11. Phillips, D., Mekos, D., Scarr, S., McCartney, K., & Abott-Shim, M. (2000). Within and beyond the classroom door: Assessing quality in child care centers. *Early Childhood Research Quarterly*, 15(4), 475-496, p. 476. [https://doi.org/10.1016/S0885-2006\(01\)00077-1](https://doi.org/10.1016/S0885-2006(01)00077-1)
12. Phillipsen, L. C., Burchinal, M. R., Howes, C., & Cryer, D. (1997). The prediction of process quality from structural features of child care. *Early Childhood Research Quarterly*, 12, 281-303. [https://doi.org/10.1016/S0885-2006\(97\)90004-1](https://doi.org/10.1016/S0885-2006(97)90004-1)
13. Center on the Developing Child at Harvard University (2007). *A science-based framework for early childhood policy: Using evidence to improve outcomes in learning, behavior, and health for vulnerable children*. Center on the Developing Child. <http://www.developingchild.harvard.edu>
14. Bridges, M., Fuller, B., Huang, D. S., & Hamre, B. K. (2011). Strengthening the early childhood workforce: How wage incentives may boost training and job stability. *Early Education and Development* 22(6), 1009-1029. doi: 10.1080/10409289.2010.514537
15. Whitebook, M., & Sakai, L. (2003). Turnover begets turnover: an examination of job and occupational instability among child care center staff. *Early Childhood Research Quarterly*, 18, 273-293. [http://dx.doi.org/10.1016/S0885-2006\(03\)00040-1](http://dx.doi.org/10.1016/S0885-2006(03)00040-1)
16. Phillips, D., Howes, C., & Whitebook, M. (1991). Child care as an adult work environment. *Journal of Social Issues*, 27(2), 49-70. <https://doi.org/10.1111/j.1540-4560.1991.tb00287.x>
17. Totenhagen, C. J., Hawkins, S. A., Casper, D. M., Bosch, L. A., Hawkey, K. R., & Borden, L. M. (2016). Retaining early childhood education workers: A review of the empirical literature. *Journal of Research in Childhood Education*, 30(4), 585-599. <https://doi.org/10.1080/02568543.2016.1214652>
18. Whitebook, M., Howes, C., & Phillips, D. (1990). *Who cares? Child care teachers and the quality of care in America. Final report, National Child Care Staffing Study*. Berkeley, CA: Child Care Employee Project. <https://cscce.berkeley.edu/who-cares-child-care-teaching-and-the-quality-of-care-in-america/>
19. Shonkoff, J., & Phillips, D. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/9824>.
20. Stremmel, A. J. (1991). Predictors of intention to leave child care work. *Early Childhood Research Quarterly*, 6, 285-298. [https://doi.org/10.1016/0885-2006\(91\)90013-B](https://doi.org/10.1016/0885-2006(91)90013-B)
21. Manlove, E. E., & Guzell, J. R. (1997). Intention to leave, anticipated reasons for leaving, and 12-month turnover of child care center staff. *Early Childhood Research Quarterly*, 12, 145-167. [https://doi.org/10.1016/S0885-2006\(97\)90010-7](https://doi.org/10.1016/S0885-2006(97)90010-7)
22. Holochwost, W. J., DeMott, K., Buell, M., Yannetta, K., & Amsden, D. (2009). Retention of staff in the early childhood education workforce. *Child Youth Care Forum*, 38, 227-237. doi: 10.1007/s10566-009-9078-6
23. Torquati, J. C., Raikes, H., & Huddleston-Casas, C. (2007). Teacher education, motivation, compensation, workplace support, and links to quality of center-based child care and teachers' intention to stay in the early childhood profession. *Early Childhood Research Quarterly*, 22(2), 261-275. doi: 10.1016/j.ecresq.2007.03.004
24. Whitebook, M., & Bellm, D. (2004). *Lessons from CARES and other early care and education workforce initiatives in California, 1999-2004*. Berkeley: University of California, Institute for Industrial Relations. <https://files.eric.ed.gov/fulltext/ED485793.pdf>

PRENATAL-TO-3 POLICY CLEARINGHOUSE

25. Caronongan, P., Kirby, G., Boller, K., Modlin, E., & Lyskawa, J. (2016). *Assessing the implementation and cost of high quality ECE: A review of the literature* (OPRE 2016-31). Administration for Children and Families, Office of Planning, Research and Evaluation. <https://www.acf.hhs.gov/opre/resource/assessing-implementation-cost-of-high-quality-early-care-education-review-of-the-literature>
26. Ghazvini, A., & Mullis, R. L. (2002) Center-based care for young children: Examining predictors of quality, *The Journal of Genetic Psychology*, 163(1), 112-125. doi: 10.1080/00221320209597972
27. Scarr, S., Eisenberg, M., Deater-Decker, K. (1994). Measurement of quality in child care centers. *Early Childhood Research Quarterly*, 9, 131-151. [https://doi.org/10.1016/0885-2006\(94\)90002-7](https://doi.org/10.1016/0885-2006(94)90002-7)
28. *Preschool Development Grants*: US Department of Education & US Department of Health and Human Services. (2014). *2014 Preschool Development Grants – Development grants executive summary*. US Department of Health and Human Services. <https://www2.ed.gov/programs/preschooldevelopmentgrants/executivesummary-419a.pdf>.
29. *Preschool Development Grants Birth Through Five*: Office of Child Care (2018). *Preschool Development Grant Birth Through Five grant competition*. Administration for Children and Families, Office of Child Care; Office of Child Care (2018). *Preschool Development Grant Birth Through Five* (PDG B-5) HHS-2018-ACF-OCC-TP-1379. <https://ami.grantsolutions.gov/HHS-2018-ACF-OCC-TP-1379>
30. US Department of Education & US Department of Health and Human Services (2013). *Race to the Top – Early Learning Challenge executive summary*. US Department of Education & US Department of Health and Human Services. <https://www2.ed.gov/programs/racetothetop-earlylearningchallenge/applicant.html>
31. Head Start Program Performance Standards, 45 C.F.R. § 1302. <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii>
32. Bureau of Labor Statistics. (n.d.). Occupational Employment Statistics: May 2024 Occupation Profiles. https://www.bls.gov/oes/current/oes_stru.htm
33. Power to the Profession. (2020). *Unifying Framework for the Early Childhood Education Profession*. National Association for the Education of Young Children. <http://powertotheprofession.org/unifying-framework/>
34. Otten, J.J., Getts, K., Althaus, A., Buszkiewicz, J., Jardim, E., Hill, H.D., Romich, J. & Allard, S.W. (2018). *Social Work and Society International Online Journal*, 16(1). <https://socwork.net/sws/article/view/538/1062>
35. H.R. 1319, 117th Congress (2021-2022). American Rescue Plan Act of 2021. <https://www.congress.gov/117/bills/hr1319/BILLS-117hr1319enr.pdf>
36. Prenatal-to-3 Policy Impact Center. (2021). *How Will the American Rescue Plan Strengthen the Prenatal-to-3 System of Care? A Summary of the 2021 Act's Benefits for Infants and Toddlers* (B.005.0321). Child and Family Research Partnership, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin. <https://pn3policy.org/resources/how-will-the-american-rescueplan-strengthen-the-prenatal-to-3-system-of-care>
37. Office of Child Care, Administration for Children and Families (2020). *CCDF discretionary funds appropriated in the CARES Act (Public Law 116-136), passed into law on March 27, 2020*. CCDF-ACF-IM-2020-01. <https://www.acf.hhs.gov/occ/policy-guidance/ccdf-discretionary-funds-appropriated-cares-act-public-law-116-136-passed-law>
38. Office of Child Care, Administration for Children and Families (2021). *CCDF discretionary funds appropriated in the CRRSA Act (Public Law 116-260), signed into law on December 27, 2020*. CCDF-ACF-IM-2021-01. <https://www.acf.hhs.gov/occ/policy-guidance/ccdf-discretionary-funds-appropriated-crrsa-act-public-law-116-260-signed-law>
39. US Department of the Treasury. (2021). *The Economics of Child Care Supply in the United States*. US Department of the Treasury. <https://home.treasury.gov/system/files/136/The-Economics-of-Childcare-Supply-09-14-final.pdf>
40. Prenatal-to-3 Policy Impact Center. (2025). *The history of child care policies: Implications for equitable implementation*. Peabody College of Education and Human Development, Vanderbilt University.
41. Caven, M., Khanani, N., Zhang, X., & Parker, C. E. (2021). *Center- and program-level factors associated with turnover in the early childhood workforce* (REL 2021-069). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2021069.pdf
42. Barnett, W.S. & Li, Z. (2021). *Who Cares for Infants and Toddlers? Change from 2012 to 2019 and its Implications*. Data Snapshot. National Institute for Early Education Research. https://nieer.org/wp-content/uploads/2021/03/ITC_DataSnapshot_Who_Cares_for_Infant_and_Toddlers_2012_2019_02_09_547.pdf

PRENATAL-TO-3 POLICY CLEARINGHOUSE

43. Schlemmer, L. (2020). *Uninsured Day Care Workers at Risk During the Pandemic. All Things Considered*. North Carolina Public Radio, WUNC, NPR. <https://www.npr.org/2020/07/24/895192010/uninsured-day-care-workers-at-risk-during-the-pandemic>
44. Center for the Study of Child Care Employment. (2021). *The American Rescue Plan: Recommendations for Addressing Early Educator Compensation and Supports*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. <https://cscce.berkeley.edu/arpa-recommendations-ece-workforce/>
45. Center for the Study of Child Care Employment, Bellwether Education Partners, and National Institute for Early Education Research. (2020). *Early Educator Preparation Landscape*. Early Educator Investment Collaborative. https://earlyedcollaborative.org/assets/2020/12/EEIC_Report_EarlyEducatorPreparationLandscape_2020.pdf
46. Gershenson, S., Hart, M. D. C., Lindsay, C. A., Papageorge, N. W. (2017). *The Long-Run Impacts of Same-Race Teachers*. IZA Institute of Labor Economics. <https://docs.iza.org/dp10630.pdf>
47. Center for the Study of Child Care Employment. (2024). *Early educator pay & economic insecurity across the states*. <https://cscce.berkeley.edu/workforce-index-2024/the-early-childhood-educator-workforce/early-educator-pay-economic-insecurity-across-the-states/>
48. Workman, S., & Capito, J. (2024). *Estimating the true cost of child care in all 50 states: A new cost model tool to support a deeper understanding of the true cost of child care*. Prenatal-to-5 Fiscal Strategies. <https://www.prenatal5fiscal.org/childcarecostmodel>
49. Office of Child Care, Administration for Children and Families (2021). *ARP Act CCDF discretionary supplemental funds*. CCDF-ACF-IM-2021-03. <https://www.acf.hhs.gov/occ/policy-guidance/ccdf-acf-im-2021-03>
50. Office of Child Care, Administration for Children and Families (2021). *ARP Act child care stabilization grants*. CCDF-ACF-IM-2021-02. <https://www.acf.hhs.gov/occ/policy-guidance/ccdf-acf-im-2021-02>
51. Otten, J. J., Bradford, V. A., Stover, B., Hill, H. D., Osborne, C., Getts, K., & Seixas, N. (2019). The culture of health in early care and education: Workers' wages, health, and job characteristics. *Health Affairs*, 38(5), 709-720. <https://pubmed.ncbi.nlm.nih.gov/31059354/>
52. Office of the State Superintendent of Education. (n.d.). *Early childhood educator Pay Equity Fund*. Retrieved April 29, 2025, from <https://osse.dc.gov/node/1592046>
53. Friedman-Krauss, A. H., Barnett, W. S., Hodges, K. S., Garver, K. A., Weisenfeld, G., Duer J. (2024). *The state of preschool 2023: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research. <https://nieer.org/yearbook/2024>
54. Vermont Department of Children and Families. (2023). Act 76 (H. 217). <https://dcf.vermont.gov/cdd/laws-rules/h.217>
55. Child Care Aware of America. (2024). *Understanding the landscape of stabilization grant funding through provider stories*. <https://info.childcareaware.org/blog/understanding-the-landscape-of-stabilization-grant-funding>
56. National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). Characteristics and quality of child care for toddlers and preschoolers. *Applied Developmental Science*, 4(3), 116-135. https://doi.org/10.1207/S1532480XADS0403_2
57. Frank Porter Graham Child Development Institute. (2023). *Investigating teaching staff turnover in early childhood education*. <https://fpg.unc.edu/news/investigating-teaching-staff-turnover-early-childhood-education>
58. Groh, A. M., Fearon, R. P., Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Roisman, G. I. (2017). Attachment in the early life course: Meta-analytic evidence for its role in socioemotional development. *Child Development Perspectives*, 11, 70-76. <https://doi.org/10.1111/cdep.12213>
59. McCoy, D. C., Yoshikawa, H., Ziol-Guest, K. M., Duncan, G. J., Schindler, H. S., Magnuson, K., Yang, R., Koeppe, A., & Shonkoff, J. P. (2017). Impacts of Early Childhood Education on Medium- and Long-Term Educational Outcomes. *Educational Researcher*, 46(8), 474-487. <https://doi.org/10.3102/0013189X17737739>
60. National Institute for Early Education Research. (2019). *Early childhood education: Three pathways to better health*. https://nieer.org/sites/default/files/2023-08/nieer-policy-update_health_2019.pdf
61. Sandstrom, H., Mefferd, E., Parra, L. J., Nelson, V., Doromal, J. B., Greenberg, E., Nikolopoulos, E., Lamb, R., & Gonzalez, A. (2024). *Early educators' reflections on the DC early childhood educator Pay Equity Fund*. <https://www.urban.org/research/publication/early-educators-reflections-dc-early-childhood-educator-pay-equity-fund>
62. McLean, C., Whitebook, M., & Roh, E. (2019). From unlivable wages to just pay for early educators. Center for the Study of Child Care Employment. <https://cscce.berkeley.edu/publications/report/from-unlivable-wages-to-just-pay-for-early-educators/>



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