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Early Childhood Educators Pay Equity: A Dream Deferred

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Abstract
Insufficient wages and unequal pay create challenges in attracting and retaining highquality early educators, critical for young children's success in early care and education (ECE) programs. While ECE professional wages are already lower than similar workers, there may be wage disparities based on race/ethnicity and gender within the workforce. To examine whether hourly wages were associated with race/ethnicity and gender after considering demographic and professional characteristics, this study used a nationally representative sample of 5,192 ECE professionals in the 2019 National Survey of Early Care and Education (NSECE) workforce survey. Multivariate regression analyses showed that compared to their White counterparts, Black, Asian, Hispanic/Latino, and other races, educators earned lower hourly wages. Additionally, this study revealed that the intersection of race/ethnicity and gender has a compounding effect on pay equity among early childhood educators. For example, the wage gap between Black/African American male and female educators is significant, with male educators earning higher hourly wages. Moreover, the study found that women of color, including Black, Hispanic/Latina, Asian, and other races, had the lowest average hourly wages compared to other ECE workers. Additionally, the study's results indicate that Black and Hispanic/Latino men had higher average hourly wages than women of color but lower average hourly wages than white women. The study explored possible reasons for these findings and their implications for policies and support.

Keywords Equity · Intersectionality · Compensation · Early childhood education · Workforce · Educator demographics

Introduction

Early Care and Education (ECE) providers play a critical role in shaping the early development of children (Bartlett & Smith, 2019; Phillips & Lowenstein, 2011). Drawing a parallel with Langston Hughes' poignant question of what happens to "A Dream Deferred" (Hughes, 1951), the significance of ECE professionals' work often faces the shadows of inadequate salaries and unequal compensation (Boyd, 2013; Kagan et al., 2008). Such challenges not only pose difficulties in retaining highly skilled educators but also spotlight the stark wage disparities rooted in race/ethnicity and gender (Lee et al., 2023; Phillips et al., 2016). With an aim to elucidate these disparities, this study utilizes data from the 2019 National Survey of Early Care and Education Workforce, focusing on the interplay of professional backgrounds with pay and the influence of demographic characteristics on wage equity.

Pay Equity in the Education Sector

Pay equity remains a major concern in the education sector. Persistent gender pay gaps and racial disparities have been consistently reported in various studies (Bobbitt-Zeher, 2007; Lips, 2013; Marini & Fan, 1997; Tharenou, 2013). For example, Bobbitt-Zeher (2007) discovered that

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college-educated men in their mid-20s typically earn roughly $7,000 more annually than their female counterparts with the same education. The results indicate that even when accounting for similar educational backgrounds, standardized test scores, fields of study, and degrees from comparably selective colleges, this disparity remains significant at approximately $4,400 annually. Similarly, Marini and Fan's (1997) insights from the National Longitudinal Survey of Youth (NLSY) revealed that women typically earn 84% of what their male counterparts earn as they start their careers, with gender differences in part-time work experience and education contributing only minimally to this disparity.

Moreover, the gender wage gap takes on another dimension for women of color. Reports indicate that Black female teachers, for instance, earn substantially less than their non-Hispanic White male peers (Partee, 2014). Such disparities are also echoed in higher education, where female faculty, especially those from minority backgrounds, often find themselves earning less than their male counterparts (Rabovsky & Lee, 2018).

In the ECE sector, the wage landscape mirrors these broader trends. Notably, Black ECE professionals, despite equivalent qualifications, earn less than White professionals (Austin et al., 2018, 2019). Austin et al. (2019) conducted a study using a nationally representative survey encompassing about two million ECE professionals in the U.S. This study compared the earnings of White, Black, and Hispanic ECE professionals. The findings showed that a higher percentage of Black ECE professionals (84%) earned below $15/hour than White and Hispanic professionals (73%). Furthermore, even accounting for educational differences, Black ECE professionals earned an hourly wage of $0.78 less than White professionals, translating to an annual difference of $1,622 for full-time workers. Such disparities are more pronounced for those catering to the youngest children, further underscoring the systemic issues at play. In addition, it's crucial to understand the nuances that exist among different racial and ethnic groups. A crucial contribution to this discourse is the study by Lee et al. (2023) as their research brings forth the intricate racial and ethnic disparities within the ECE workforce. They found that Black ECE center educators were associated with higher hourly wages than their counterparts from other racial/ethnic groups. This suggests that the wage disparities might be even more pronounced and layered for non-Black minorities, adding another dimension to the already pressing issue of wage equity. Such findings underscore the necessity to adopt a multi-faceted approach when addressing wage disparities in the ECE sector, considering the intricacies of racial and ethnic differences.

Moreover, these wage imbalances stem from systemic biases against roles perceived as feminine or predominantly held by women, especially women of color (Gay, 2018; Grissom et al., 2021; Ullrich et al., 2016). Given that the ECE workforce primarily comprises women, with a significant portion from racial and ethnic minority backgrounds, these biases become even more pronounced. Historical undervaluation of roles held by women and minorities, coupled with societal and institutional barriers, have perpetuated these wage disparities (Allegretto & Mishel, 2016; Whitebook et al., 2003, 2014, 2018).

Role and Impacts of ECE

ECE stands as a cornerstone in shaping a child's cognitive, social, and emotional development. High-quality ECE programs, including the Perry Preschool, Abecedarian Study, and Chicago Preschool Study, have consistently demonstrated their profound influence on holistic child development (Campbell et al., 2002, 2012; Schweinhart, 2003; Schweinhart et al., 1985, 2005). Notably, children from economically disadvantaged backgrounds derive immense benefits from early interactions with preschools and childcare centers, fostering not only cognitive growth but also promoting school readiness (Burger, 2010; Magnuson et al., 2004).

Research initiatives such as the Perry Preschool and the Abecedarian Project offer conclusive evidence regarding the enduring cognitive advantages of early education (e.g., Borman & Hewes, 2002; Campbell et al., 2002, 2012; Galinsky, 2006). For example, Campbell et al. (2002) tracked high-risk infants from the Abecedarian Project into their young adulthood. Remarkably, those who experienced both preschool and primary grade interventions exhibited notable academic and intellectual achievements over their counterparts. This spectrum of benefits spanned higher academic grades, an increased propensity for college attendance, and diminished teen pregnancies. It's paramount to note that these advantages sustained into their adult lives, underscoring the enduring imprint of early interventions.

Peeling back the layers of the ECE sector, one discerns a salient truth: the remuneration of the ECE workforce is deeply intertwined with the caliber of services rendered. Furthermore, this service quality resonates directly with the benefits cascading to children, families, and society.

Quality of ECE and Its Relationship to Compensation

Compensation plays a pivotal role in staff motivation, commitment, and retention. The National Association for the Education of Young Children (NAEYC) stresses the imperative of competitive remuneration for attracting and retaining top-tier ECE professionals. An environment of equitable compensation mitigates financial anxieties,

allowing educators to channel their energies toward their core mission – educating young minds (Kagan et al., 2008; NAEYC, 2005).

Direct Impact on Children

Well-compensated educators are more likely to stay in their positions longer, thereby offering children stability and continuity in learning. Such continuity is intrinsically linked to enhanced child outcomes, both academically and socially (Duncan, 2003; Loeb et al., 2007). As elucidated by Whitebook et al. (2018), low wages and high turnover rates can disrupt children's learning experiences, leading to poorer developmental outcomes.

Benefits to Families

Equitable compensation for ECE professionals engenders a ripple effect of benefits for families. They relish the peace of mind, knowing their children are ensconced in a stable, high-quality learning environment. This stability mitigates disruptions in the child's learning journey and offers parents the latitude to focus on their occupational and personal pursuits (Allen & Backes, 2018).

Societal Gains

The societal gains from a well-compensated ECE workforce cannot be overstated. As García et al. (2017, 2020) posited, children imbibing quality early education are better primed for scholastic pursuits and future vocational endeavors. This quality education translates into manifold societal benefits, including enhanced health, elevated labor incomes, and reduced crime rates. The overarching societal return on investment is a staggering 13.7% annually, with a benefit/cost ratio of 7.3.

Despite these promising outcomes, it's essential to understand that the quality of ECE programs is intrinsically tied to the qualifications and compensation of its professionals. Regrettably, these dedicated educators are frequently undervalued and under-compensated, resulting in overarching challenges within the ECE sector.

The fair compensation of ECE professionals is paramount for the overall benefits they bring to children, families, and society at large. Ensuring competitive wages is not only an acknowledgment of their invaluable contributions but also a means to uplift the quality of care and education for children. Crucially, competitive salaries ensure the retention of skilled educators, fostering a consistently high standard of ECE and ensuring a brighter future for our young ones (Darling-Hammond & Sykes, 2003; McDonald et al., 2018; Totenhagen et al., 2016).

Comparison of ECE to Public Education (PreK-12)

Delving into the juxtaposition of ECE and public education from PreK-12 unveils a deeper narrative about societal priorities and values (Haskins, 1989). ECE, which deals with the most formative years of a child's life, lays the foundation upon which all subsequent learning is built (Morrison, 2015). The rapid brain development during this phase emphasizes the importance of quality interactions and care. As discussed earlier, wage disparities persist despite the evident significance of ECE (Austin et al., 2019; Whitebook et al., 2003, 2018).

On the other hand, the public education system, spanning PreK-12, often enjoys greater financial support and acknowledgment (Bernard, 2001). This could be attributed to several factors: the visibility of standardized testing results, the larger student population, or the fact that these schools are often funded directly by government entities (Ingersoll, 2009). As a result, public educators are more frequently recognized for their contributions and are typically rewarded with better compensation packages. While their work is undoubtedly vital, it's built upon the groundwork laid by ECE professionals.

The under-compensation of ECE workers can have detrimental effects on the education sector. Subpar wages often result in higher attrition, causing disruptions in continuity of care, which can adversely impact a child's holistic development (Ackerman, 2006). Moreover, potential educators might be dissuaded from pursuing careers in ECE due to the wage disparities, leading to a shortage of qualified professionals.

Addressing these wage discrepancies is both an equity and quality issue. By ensuring competitive compensation for early childhood educators, society can attract and retain passionate professionals dedicated to shaping the future (Totenhagen et al., 2016). Furthermore, it highlights the significance society attributes to early development, recognizing the enduring impact of these foundational years on an individual's trajectory.

Attracting and Retaining Quality ECE Professionals

At the heart of effective ECE lies a dedicated and skilled workforce. Attracting and retaining top-tier ECE professionals is of paramount importance for several reasons:

Diverse Representation for Diverse Students

A quality ECE workforce mirrors the diverse backgrounds of students. Such representation promotes an environment where every child feels seen and valued, thus enhancing their educational experience. As posited by Kozleski and

Proffitt (2020), empirical evidence suggests that students of color tend to thrive academically and socio-emotionally when instructed by educators who share their racial or ethnic lineage. This phenomenon isn't just an affirmation of cultural relevance but speaks to students' subconscious validation when their educators resonate with their lived experiences.

Enhanced Cultural Competence

The pedagogical realm increasingly acknowledges cultural competence's importance as a critical teaching tool (Giroux, 2004). Diverse educators, enriched by their varied lived experiences, possess an intrinsic ability to comprehend and navigate the multifarious challenges faced by students from diverse backgrounds. Such adeptness ensures that instruction is tailored to individual nuances, fostering an inclusive educational ambiance (Gide et al., 2022; Tyler et al., 2004). This not only fortifies the learning process but also fosters a school environment that acknowledges and respects cultural multiplicities.

Broadened Curriculum Perspectives

A diverse teaching contingent invariably enriches the curriculum by infusing it with a plethora of perspectives and narratives. Students are thus exposed to a wider array of ideas, histories, and cultures, enhancing their cognitive faculties and preparing them for an increasingly globalized world. As McLaughlin (1992) and Milem et al. (2005) articulate, a curriculum that embraces diverse viewpoints is instrumental in sculpting well-rounded global citizens who are equipped to navigate the complexities of a multicultural world.

Addressing Implicit Biases

Implicit biases, often subconscious, can inadvertently seep into educational settings, influencing both teaching methodologies and student evaluations. A diverse teaching cadre serves as an inherent check and balance, challenging and mitigating these biases. The significance of this aspect is underpinned by extensive research which reveals the pervasive influence of educator biases on student outcomes, particularly for students of color (Gershenson & Papageorge, 2018; Grissom et al., 2015; Tynjälä, 2008). By consciously fostering a diverse workforce, ECE centers can proactively counteract these biases, ensuring equitable student outcomes.

Innovation Through Diversity

Innovation is often the offspring of diverse thought processes colliding and coalescing. As elucidated by Phillips and Schweisfurth (2014), this principle posits that heterogeneous teams tend to outpace their homogenous counterparts in problem-solving and innovation. Translated to the ECE context, a diverse group of educators can collaboratively devise innovative teaching methodologies and problem-solving techniques, ensuring a dynamic and evolving pedagogical approach that benefits all students.

In summation, attracting and retaining a diverse ECE workforce isn't merely a call for representation. It's a crucial ingredient for holistic student development, quality education, and societal progress.

NSECE and Existing Literature

The profound impact of the qualifications and compensation of the ECE workforce on the quality of early childhood education is well-documented (Kagan et al., 2008; Lee et al., 2023; Phillips et al., 2016). Yet, the ECE sector has historically struggled with undervaluation, inadequate pay, and limited professional development opportunities (Johnson-Staub, 2017; Razavi & Staab, 2010). Addressing these challenges, the National Survey of Early Care and Education (NSECE) has become instrumental in offering data-driven insights to enhance both ECE and its workforce.

Funded by the Office of Planning, Research, and Evaluation (OPRE) under the Administration for Children and Families (ACF), the NSECE offers a comprehensive, nationally representative survey capturing insights on ECE providers, families, and children across the U.S. This survey meticulously delves into the characteristics of ECE providers, encompassing their qualifications, compensation, and benefits. It also sheds light on key dimensions of ECE program quality, from curriculum choices to the intricacies of teacher-child interactions. Importantly, the NSECE ventures beyond professional characteristics to capture family data, including their socio-economic profiles and childcare preferences.

The NSECE, encompassing four distinct surveys—household, home-based provider, center-based provider, and workforce—yields a comprehensive view of the ECE landscape, informing both policy and practice. Its profound impact on research can be witnessed in studies such as that by Whitebook et al. (2016). Their findings, rooted in NSECE data, highlighted a stark wage disparity, noting a median hourly wage of $10.60 for ECE teachers, which is notably below living wages in numerous states. Moreover, a mere 15% of these educators enjoyed the privilege of employer-sponsored health insurance.

Subsequent research, leveraging the wealth of NSECE data, has discerned connections between ECE quality, the qualifications of its workforce, and accessibility (Austin et al., 2019; Grant et al., 2019). A notable study by Grant et al. (2019) revealed a direct correlation between higher educational qualifications of ECE teachers and superior care quality. Moreover, centers with optimal working conditions were found to score better in terms of quality.

The expansive data from NSECE has further facilitated inquiries into program quality metrics, regional availability, and broader accessibility issues. This data has become a cornerstone for evaluating both teacher qualifications and program accreditations, as well as gauging the nuances of ECE accessibility, especially in the context of subsidized care and low-income families (Johnson et al., 2020; Phillips et al., 2016; Whitebook et al., 2016).

In essence, the NSECE has crystallized its position as an irreplaceable asset for stakeholders across the board - be it policymakers, researchers, or practitioners - guiding them toward informed decisions that elevate the ECE landscape.

Research Gaps and Study Aims

As articulated above, pay equity in ECE remains a pressing concern, yet significant gaps in our understanding persist. One pressing concern is the inconsistent data reporting across the sector. Publicly funded programs, such as prekindergarten and Head Start, typically have set reporting mechanisms for employee compensation (Bogard & Takanishi, 2005; Yoshikawa et al., 2013). In contrast, many private early childhood education providers, especially those in non-traditional environments like home-based care, may not adhere to standardized data reporting, making comprehensive analysis challenging (National Research Council & Institute of Medicine, 2012; Whitebook et al., 2003).

Another pivotal area needing further exploration is the concept of intersectionality in pay equity research. While gender pay disparities are documented, there is an essential need to investigate how gender intersects with factors like race, ethnicity, and immigration status. Recognizing these intertwined factors will provide a clearer picture of the distinct challenges educators from various backgrounds face.

Given these research gaps, our study embarks on a focused exploration of pay differentials drawing on data from a national sample of professionals working in ECE programs across licensed U.S. facilities. Specifically, this study has three main objectives:

1. Examine how professional backgrounds, such as education and experience, relate to hourly wages.
2. Investigate the role of demographic characteristics, specifically race, ethnicity, and gender, in determining pay.
3. Analyze the intersecting impact of race, ethnicity, and gender on pay equity.

Through this investigation, we aim to contribute valuable insights that can guide future policy recommendations and advocacy initiatives in ECE.

Method

Data and Sample

The data for this study was obtained from the NSECE workforce survey conducted in 2019. The surveys collected information on the demographic characteristics, education levels, working conditions, compensation, and benefits of ECE professionals across the U.S. The goal is to inform policies enhancing educator pay, benefits, and working conditions.

The workforce survey was conducted in 2019 as part of NSECE. Classroom staff respondents were sampled directly from completed center-based provider questionnaires, and the survey was available online, by phone, or in person. The sampling procedure for the workforce survey went through three stages, and the selected respondents included people from various staff roles, such as lead teacher and aide. In most cases, only one workforce case was fielded per center, but two workforce cases were fielded for a subset of center-based providers to increase the total number of workforce respondents. The workforce survey was conducted through two paths, depending on what point in the field period the center-based provider questionnaire was completed. The first path was for cases spawned from center-based providers completed during the initial mail cycle, and the second path was for cases spawned from center-based providers completed after being released to fieldwork. The NSECE team sent a series of three contacts inviting workforce cases to participate in the survey. Field interviewers attempted to meet with the selected classroom staff member(s) to introduce the study and gain their cooperation. If the interview could not be completed, interviewers would provide web survey access information or attempt to follow up by phone or in person.

The workforce data collection method used in the NSECE involved sampling workforce respondents directly from completed center-based provider questionnaires. The sampling procedure involved randomly selecting a classroom or group in the program, enumerating all personnel who were primarily assigned to that classroom, and randomly choosing two staff members from among those enumerated. Those staff members included lead teachers, instructors, teachers (possibly including director/teacher),

assistant teachers, instructors, and aide roles. Workforce respondents could complete the questionnaire with an interviewer by phone, in person, or online through a Web survey programmed for self-administration. The survey was made available in English and Spanish. Incentives in the form of a $10 gift card were offered to encourage participation. The current investigation used data from workforce respondents in 2019 (n = 5,192).

Measures

Hourly Wages

In the recent study, the focus was predominantly on participants' hourly wages. As outlined by the National Survey of Early Care and Education Project Team (2021), a meticulous methodology was employed to preserve the confidentiality of the wage data. This approach was especially crucial to avoid revealing exceedingly high wages, which could potentially pinpoint specific participants. At the study's outset, participants shared their individual hourly wages. To uphold data confidentiality and implement top-coding, they were segmented into specific sub-groups. These classifications were rooted in critical criteria like urban/rural residence, organizational type, and educational background. Each sub-group's wage data underwent a detailed examination, leading to the determination of specific wage cut-off values. These cut-offs represented the upper wage bounds for the respective category. If a participant's data spanned multiple categories, the lowest or most stringent threshold was used. Wages that surpassed these category-specific thresholds were then allocated to the "top-coding pool." Within this pool, a median wage was computed and subsequently replaced all wages that exceeded the category-specific thresholds. Such a procedure ensures that any unusually high wage was replaced with a more standardized high-wage figure. This not only safeguards the identities of those earning exceptionally high wages but also prevents these figures from disproportionately influencing the study's results. Ultimately, the research indicated a median hourly wage of $14.54, accompanied by a modest standard deviation of $0.32.

Gender

As part of the study, participants were asked to indicate their gender by selecting one of two options: male or female. Of the participants, 112 identified as male, while 4,534 identified as female.

Race/ethnicity

The NSECE 2019 used two questions to gather information about the race and ethnicity of the teachers involved. The first question provided a list of racial categories: White, Black or African, Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, and other races. Participants were allowed to choose multiple options. The second question asked whether they identified as Hispanic or Latinx. Based on the answers to these questions, the teachers were classified into one of five categories: Non-Hispanic White (coded as 0), non-Hispanic Black (coded as 1), non-Hispanic Asian (coded as 2), non-Hispanic other races (coded as 3), and Hispanic/Latino (coded as 4).

Covariates

To reduce the possibility of spurious associations, multilevel analyses considered demographic and professional background characteristics associated with teachers' wages as covariates. These included language speaking (1 = *non-English speaker*, 0 = *English speaker*), years of teaching (0 = *5 years or less*, 1 = *5 to 10 years*, 2 = *10 to 15 years*, 3 = *15 to 20 years*, 4 = *20 to 25 years*, 5 = *more than 25 years*), educational attainment (0 = *Less than High School*, 1 = *GED or high school equivalency*, 2 = *High school graduate*, 3 = *Some college credit but no degree*, 4 = *Associate degree*, 5 = *Bachelor's degree*, 6 = *Graduate or professional degree*), major, teaching position (0 = *Aide or assistant teacher*, 1 = *Teacher, instructor, or lead teacher*), union membership (0 = *No*, 1 = *Yes*).

Analytic Approach

To handle missing data, this study used the multiple imputation approach, which involved generating multiple plausible values for each missing data point based on observed values from the 2019 NSECE dataset and then analyzing the dataset multiple times. Specifically, this study created five imputations and specified a maximum of 50 iterations for each imputation. The imputation method used in this study was predictive mean matching.

In addition, multivariate regression models were used to answer the three research questions. The multivariate regression model allows for simultaneously examining the relationships between multiple independent variables (e.g., professional and demographic characteristics) and a single dependent variable (e.g., hourly wages) while controlling for other potentially confounding variables (Raykov & Marcoulides, 2008). By including multiple variables in the model, the researchers can assess the unique contribution of each variable to the outcome of interest and determine

which variables are most strongly associated with the outcome. This approach is advantageous in examining the complex relationships between factors that may impact pay equity among early childhood educators, such as race, ethnicity, and gender.

Results

Table 1 provides an overview of the key independent variables for characteristics of early care and education professionals. The largest proportion of educators reported having 5 years or less (27.52%) of experience in ECE settings, followed by 5 to 10 years (22.36%) and 10 to 15 years (16.27%). Regarding education, 27.30% of educators had some college credit but no degree, followed by 24.93% with a bachelor's degree, 17.80% with an associate degree, and 16.41% with a high school graduate education. Most educators were teachers, instructors, or lead teachers (65.40%), while 34.22% were aides or assistant teachers. Furthermore, the sample was predominantly female (97.59%), and the vast majority of respondents did not have union membership (90.17%).

Professional Characteristics and Hourly Wages

This study investigated the relationship between the hourly wages of ECE professionals and their professional characteristics. Results from Model 1 in Table 2 showed that several professional characteristics were significantly associated with hourly wages. Educators with higher levels of education, such as an associate degree (B = 1.56, SE = 0.60, $p = 0.032$), bachelor's degree (B = 2.72, SE = 0.67, $p < 0.001$), and graduate or professional degree (B = 6.56, SE = 0.54, $p < 0.001$) earned higher wages than those with lower levels of education. For example, educators with a bachelor's degree earned $1.56 higher per hour than those who did not have a high school diploma. Furthermore, being a teacher, instructor, or lead teacher was associated with higher wages than being an aide or assistant teacher (B = 1.58, SE = 0.68, $p < 0.01$). Educators teaching for more prolonged periods were marginally associated with higher wages. Additionally, union members (e.g., Service Employees International Union, American Federation of Teachers, American Federation of State, County and Municipal Employees (AFSCME), or the Teamsters) earned higher hourly wages compared to their non-union counterparts (B = 2.56, SE = 0.47, $p < 0.01$).

Demographic Characteristics and Hourly Wages

According to Model 2 in Table 2, the hourly wages of Black ECE professionals were significantly lower than those of White ECE professionals (B = -1.14, SE = 0.69, $p < 0.01$), indicating that Black ECE professionals earned $1.14 less per hour than their White counterparts. Similarly, the hourly wages of Hispanic/Latino educators were significantly lower than those of White ECE professionals (B = -1.58, SE = 0.65, $p = 0.030$), with Hispanic/Latino educators earning $1.58 less per hour than White educators. However, there was no significant difference in hourly wages between Asian ECE professionals and other racial groups compared to White ECE professionals.

Male early childhood educators tend to earn higher hourly wages than female educators (B = 1.89, SE = 0.54, $p < 0.01$), meaning that male educators earn $1.89 more per hour than their female counterparts.

Effects of Race/Ethnicity and Gender Intersect on Hourly Wages

To investigate whether gender wage differences were associated with their race/ethnicity, an interaction term, gender × race/ethnicity, was added to the third step (Model 3 in Table 2). The results of the interaction model indicate that after controlling for all other variables, male Black ECE professionals earn $2.53 less per hour than male White (Non-Hispanic) ECE professionals (B = 2.53, SE = 1.35, $p < 0.01$). Similarly, the hourly wages of male ECE professionals who identify as "Other" race/ethnicity tend to be $0.87 less than their male White (Non-Hispanic) counterparts, although this difference is not statistically significant at the 0.05 level. However, male Hispanic/Latino ECE professionals tend to earn $1.87 more per hour than male White (Non-Hispanic) ECE professionals, but this difference is also not statistically significant at the 0.05 level. Therefore, it remains uncertain whether there are any significant differences in hourly wages between male ECE professionals who identify as "Other" or Hispanic/Latino and those who identify as White (Non-Hispanic).

The results of the interaction model indicate that after controlling for all other variables, male Black ECE professionals earn $2.53 less per hour than male White (non-Hispanic) ECE professionals (B = 2.53, SE = 1.35, $p < 0.01$). Similarly, male ECE professionals who identify as "other" race/ethnicity earn $0.87 less per hour than their White (non-Hispanic) male counterparts. This difference is not statistically significant at the 0.05 level. Male Hispanic/Latino ECE professionals earn $1.87 more per hour than male White (non-Hispanic) ECE professionals. This difference is also not statistically significant at the 0.05 level. Female

Table 1 Descriptive statistics for characteristics of early care and education educators

Variables	Mean (SD)
Hourly wages	14.54 (0.32)
Non-English speaker, %	17.30 (-)
Year of Experience, %	
5 years or less	27.52 (-)
5 to 10 years	22.36 (-)
10 to 15 years	16.27 (-)
15 to 20 years	13.88 (-)
20 to 25 years	7.79 (-)
more than 25 years	12.18 (-)
Highest degree, %	
Less than High School	1.81 (-)
GED or high school equivalency	2.69 (-)
High school graduate	16.41 (-)
Some college credit but no degree	27.30 (-)
Associate degree (A.A., AS)	17.80 (-)
Bachelor's degree (BA, BS, AB)	24.93 (-)
Graduate or professional degree	9.05 (-)
Major, %	
Never attended college	19.24 (-)
ECE majors	44.98 (-)
ECE-related majors	12.31 (-)
Education-related majors	1.99 (-)
Not ECE or education-related majors	21.47 (-)
Position, %	
Aide or assistant teacher	37.10 (-)
Teacher, instructor, or lead teacher	61.30 (-)
Other/undetermined	0.4 (-)
Union, %	
Yes	9.83 (-)
No	90.17 (-)
Gender, %	
Female	96.70 (-)
Male	3.30 (-)
Race, %	
White	69.71 (-)
Black/African American	24.38 (-)
Asian	2.71 (-)
Other	3.20 (-)
Hispanic, %	
Yes	24.43 (-)
No	75.57 (-)
Female × Race/ethnicity	
White, non-Hispanic	57.81 (-)
Black, non-Hispanic	16.73 (-)
Hispanic	16.40 (-)
Asian	2.61 (-)
Other races or multiracial	3.10 (-)
Male × Race/ethnicity	
White, non-Hispanic	1.30 (-)
Black, non-Hispanic	0.48 (-)
Hispanic	0.32 (-)
Asian	0.23 (-)
Other races or multiracial	0.10 (-)

Note: Other races or multiracial includes American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, or multiple races

Table 2 Results of multivariate regression models for hourly wages

Predictors	Model 1 Hourly wages	Model 2 Hourly wages	Model 3 Hourly wages
	B (SE)	*B (SE)*	*B (SE)*
Intercept	**12.21***** (0.65)	**11.56***** (0.67)	**11.68***** (0.72)
Year of Experience[a]			
5 years or less	**0.32*** (0.19)	**0.23*** (0.23)	**0.18*** (0.23)
5 to 10 years	0.36* (0.23)	**0.32*** (0.45)	**0.29*** (0.46)
10 to 15 years	**3.23**** (0.57)	**3.01*** (0.57)	**2.89*** (0.62)
15 to 20 years	**5.45***** (0.87)	**5.23**** (0.85)	**5.18**** (0.86)
More than 25 years	**5.89**** (0.89)	**5.43**** (0.89)	**5.67**** (0.89)
Non-English speaker[b]	-0.34 (0.49)	-0.29 (0.53)	**-0.22** (0.48)
Educational attainment[c]			
GED or high school equivalency	0.14 (0.67)	0.06 (0.69)	0.04 (0.89)
High school graduate	0.23 (0.69)	0.19 (0.76)	0.11 (0.78)
Some college credit but no degree	0.27 (0.53)	0.23 (0.53)	0.18 (0.78)
Associate degree (A.A., AS)	**1.56*** (0.60)	**1.49*** (0.62)	**1.32*** (0.63)
Bachelor's degree (BA, BS, AB)	**2.72***** (0.67)	**2.63**** (0.67)	**2.46**** (1.12)
Graduate or professional degree	**6.56***** (0.54)	**6.45***** (0.49)	**6.23**** (0.55)
Major[d]			
ECE majors	5.78 (0.87)	5.43 (0.89)	5.23 (1.24)
ECE-related majors	4.11 (0.58)	4.02 (0.58)	3.89 (0.67)
Education-related majors	4.01 (0.32)	3.67 (0.39)	3.52 (0.56)
Not ECE or education-related majors	3.01 (0.12)	2.96 (0.17)	2.87 (0.19)
Teacher, instructor, or lead teacher[e]	**1.58**** (0.68)	**1.54**** (0.71)	**1.52**** (0.72)
Union membership[f]	2.56** (0.47)	**2.52***** (0.49)	**2.43***** (0.54)
Male[g]	-	**1.89**** (0.54)	**1.78**** (0.78)
Race/ethnicity[h]			
Black (Non-Hispanic)	-	**-1.14**** (0.58) (((0.69)	**-1.03**** (0.87)
Asian (Non-Hispanic)	-	0.57 (0.43)	0.45 (0.67)
Other (Non-Hispanic)	-	-0.12 (0.59)	-0.65 (0.67)
Hispanic/Latino (all races)	-	**-1.58*** (0.65)	**-1.67*** (0.78)
Gender × Race/ethnicity[i]			
Male: Black (Non-Hispanic)	-	-	**-2.53**** (1.35)
Male: Asian (Non-Hispanic)	-	-	-1.37 (1.22)
Male: Other (Non-Hispanic)	-	-	-0.87 (1.12)
Male: Hispanic/Latino (all races)	-	-	1.87 (1.30)
Gender × Race/ethnicity[j]			
Female: Black (Non-Hispanic)	-	-	**-3.34**** (1.45)
Female: Asian (Non-Hispanic)	-	-	-1.77 (1.26)
Female: Other (Non-Hispanic)	-	-	-0.65 (1.72)
Female: Hispanic/Latino (all races)	-	-	**1.56*** (1.70)

Note: Bold indicate statistically significant coefficients

[a]Reference=5 years or less, [b]Reference=Monolingual English speaker, [c]Reference=Less than high school, [d]Reference= Never attended college, [e]Reference= Aide or assistant teacher, [f]Reference=No union membership. [g]Reference=Female. [h]Reference = White (Non-Hispanic), [i]Reference = Male: White (Non-Hispanic), [j]Reference = Female: White (Non-Hispanic)

B = Regression coefficient, SE = Standard error

*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$

Black ECE professionals earn $3.34 less per hour than female White (non-Hispanic) ECE professionals (B = 3.34, SE = 1.45, $p < 0.01$). Similarly, the hourly wages of male ECE professionals who identify as "other" race/ethnicity are $0.65 less than their female White (Non-Hispanic) counterparts. This difference is not statistically significant at the 0.05 level. Male Hispanic/Latino ECE professionals earn $1.56 more per hour than female White (non-Hispanic) ECE professionals (B = 1.56, SE = 1.70, $p < 0.05$).

Discussion

This study, drawing on a nationally representative survey of ECE providers, staff, and leaders from across the U.S., delves into wage disparities among ECE professionals. It specifically dissects how hourly wages diverge based on various professional and demographic attributes. Key findings reveal that educational attainment, teaching positions, years of experience, and union membership significantly influence ECE professionals' hourly earnings. Those with at least an associate degree notably out-earn their counterparts with lower academic qualifications.

Aligned with prior research, our findings underscore that wage disparities largely hinge on professional traits (Douglass, 2019; Isaacs et al., 2018; Kipnis et al., 2012). The link between educational attainment and wages underscores the need for concerted strategies to democratize opportunities for all ECE professionals. Leveraging successful models like TEACH and The Child Care WAGE$® can help enhance the compensation of early educators without overburdening parents with extra fees (Kerlin, 2003).

Beyond professional traits, our study looked at the impact of gender and race/ethnicity on ECE professionals' wages. We found that educators from Black, Asian, and Hispanic/Latino backgrounds earned less than their White counterparts. This reinforces earlier findings on racial wage disparities (McLean et al., 2019; Whitebook et al., 2018). Male educators also showed a wage advantage over their female counterparts. Unionization emerges as a potential equalizer. Historically, unionized educators have seen better wage standards and benefits (Blau & Kahn, 2017; Miller & Vagins, 2018). However, regional wage differences, possibly influenced by local industry needs or cultural norms, can also affect the wage landscape.

Several factors influence the gender wage gap in ECE. Primarily, the field sees an overrepresentation of women in lower-paying roles like aide or assistant teachers. At the same time, men are more likely to hold higher-paying positions, such as program directors. This reflects broader patterns of occupational segregation by gender, in which women are concentrated in certain occupations and industries that tend to pay less (Bobbitt-Zeher, 2007; Kunze, 2005). Another factor is that women may face discrimination in hiring, promotion, and pay in the early care and education field, as in many other industries. For example, research has shown that women are often offered lower salaries than men for the same position and are less likely to receive promotions or leadership opportunities (Blau & Kahn, 2017; Whitebook et al., 2014). Gender-based wage disparities in ECE mirror larger societal trends. Occupational gender segregation often relegates women to lower-paying roles, while systemic biases stymie their professional growth (Bobbitt-Zeher, 2007; Kunze, 2005). The ECE sector's chronic undervaluation aggravates these disparities, especially impacting the predominantly female and people of color workforce.

Our third research objective delved into how race/ethnicity and gender intersect regarding pay equity among early childhood educators. The analysis revealed a pronounced wage gap, especially among Black/African American educators. Black/African American male educators earned significantly more than their female counterparts. Notably, women of color, encompassing Black, Hispanic/Latina, and Asian races, earned the lowest average hourly wages in the ECE sector. Men of color also faced wage disparities, with Black and Hispanic/Latino men earning more than women of color but less than White women. This layered disadvantage suggests that the challenges women of color face in the ECE sector stem from the compounded effects of both gender and racial discrimination. Conversely, men of color navigate unique barriers, including racial discrimination and gender-based challenges in a predominantly female field.

Overall, the study's results highlight the need for greater investment in the ECE workforce regarding compensation, professional development, and training opportunities to improve the quality of care provided to young children. In addition, this intersectional analysis highlights the need to address the multiple factors contributing to pay disparities among ECE professionals, including systemic racism and gender discrimination. Efforts to promote pay equity must consider these intersecting factors to ensure that all ECE professionals are fairly compensated for their work.

The findings collectively emphasize an urgent call to redress wage disparities in the ECE domain. Addressing these imbalances requires a multi-faceted approach, spanning policy changes, legislative advocacy, awareness campaigns, and training programs that counter unconscious biases (Tynjälä, 2008). Promoting diversity, equity, and inclusion in the ECE sector is also paramount.

Concluding, we invoke Hughes' "A Dream Deferred", underscoring the potential repercussions of perpetuating wage inequities in ECE. Hughes' poignant questions about a postponed dream:

What Happens to a Dream Deferred?
Does it dry up like a Raisin in the sun? Or Fester like a sore?

These lines serve as a metaphor for the potential outcomes in the field of ECE. If we continue to undervalue our educators by not addressing pay equity, their passion and commitment might diminish, akin to a raisin losing its essence. The "fester" in Hughes' imagery could symbolize growing dissatisfaction and the risk of attrition in the profession.

Ignoring this issue could lead to an eventual decline in the quality of ECE. Pay equity is not just about salaries; it recognizes the significant value and impact of Early Childhood Educators. We must ensure that the dreams of our educators do not "dry up" or "fester." Instead, they should be realized, celebrated, and uplifted, ensuring a brighter future for both educators and the children they inspire.

Limitations and Future Research

While this study offers significant insights into the factors contributing to wage disparities among ECE professionals, it is essential to note that certain limitations need to be considered.

One notable limitation of this study is its potential underemphasis on regional wage differences. Regional wage differences may lead to higher male employment rates, particularly in areas with traditional wage disparities. This study should have focused more on this aspect, marking it as a potential area for future exploration. A more in-depth analysis accounting for these regional nuances could reveal further insights into the wage structure in the ECE sector.

Notably, the study in question concentrated solely on the hourly wages of ECE professionals. Comprehensive understanding demands examination of other compensation forms like health insurance, retirement benefits, and out-of-pocket expenses. Previous research has indicated that considering these various forms of compensation is essential to comprehend the needs of ECE professionals and to develop effective policies to improve equitable compensation and economic well-being for all ECE workers (Holochwost et al., 2009; Isaacs et al., 2018; Phillips et al., 2016; Ullrich et al., 2016). By considering these elements, we can holistically address the economic well-being of ECE professionals.

Moreover, a comparative study between the 2012 and 2019 NSECE Workforce surveys would be instrumental in discerning changes in pay equity over time. Additionally, the comparison could reveal whether the intersections between race/ethnicity and gender in pay equity among early childhood educators have changed over time. For example, we might observe changes in the size and direction of pay disparities across different racial/ethnic and gender groups and explore whether these changes reflect broader societal trends or specific policy interventions. Overall, comparing the 2012 and 2019 NSECE workforce surveys could provide valuable insights into the progress, or lack thereof, in addressing pay equity and the intersections of race/ethnicity and gender in the early childhood education field.

Historically, PreK-12 educators, especially those who are unionized, tend to have more standardized pay scales and benefits (Hargreaves, 2014). Investigating disparities between the two sectors could shed light on systemic issues plaguing the ECE field and provide a benchmark for potential reforms. Another pertinent point of inquiry is the equitability of the pay structure based on race and gender across child care and PreK-12 settings. While disparities exist in ECE, as highlighted in this study, it remains to be seen how these disparities compare to the PreK-12 sector. Addressing this can provide a comprehensive picture of educational wage equity from early childhood through K-12. Preliminary studies suggest that while wage disparities based on race and gender are prevalent in both sectors, the magnitude and nature of these disparities may vary (Hanushek & Rivkin, 2009). However, more robust research is warranted to draw definitive conclusions.

Another significant aspect is the relationship between union membership and ECE workers' hourly wages. The 2019 NSECE does not differentiate between types of unions, only identifying union membership without detailing the union type. This lack of specificity makes it challenging to ascertain the influence of different union memberships on wages. Future studies should enhance data collection methods to glean more specific details on union membership among ECE workers. Such refined data can help discern the effects of different union types on wages. Exploring why ECE workers opt to join unions, the perceived benefits and challenges of union membership, and its impact on working conditions, job satisfaction, and overall well-being would also provide valuable insights.

Considering that women and individuals of color often occupy low-wage positions in the ECE sector and may encounter obstacles accessing union benefits, it's imperative to investigate how union membership intersects with race and gender (Borjas, 1979; Kass & Costigliola, 2004). This examination can help pinpoint and rectify disparities in union representation and benefits.

Additionally, unions' role in tackling broader social justice issues in the ECE sector, such as racial and gender inequalities, workplace diversity, and policies supporting working families, is worth exploring. By delving into the intricate relationship between union membership, race, and gender, research can guide endeavors to foster more equitable and inclusive ECE environments.

In conclusion, while this study has illuminated certain aspects of wage disparities in the ECE field, there is a need for more comprehensive research. Such endeavors can enrich our understanding of wage dynamics in the ECE sector and guide efforts toward ensuring equitable compensation and well-being across the ECE workforce.

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Declarations

Conflict of interest There are no conflicts of interest to disclose.

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