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Unveiling the Landscape of Utah's Child Care Workforce:

Working Conditions, Wages, and Motivations from the Child Care Workforce Bonus Program Survey

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UTAH DEPARTMENT OF
WORKFORCE SERVICES
CHILD CARE

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Section 1: Introduction

Utah's child care workers provide key support for working families and, by extension, the state's economic productivity and output. They simultaneously shape the development and early learning experiences of thousands of Utah children. In this labor-intensive industry, individual workers and providers bear an essential role in every community and every market. In this report we utilize a unique data set consisting of the largest sample of Utah child care workers available today to understand this vital workforce.

Despite the essential nature of child care labor, strains in the market persistently limit worker compensation, making childcare workers one of the lowest paid occupations in the country.[1] Over the past several years, economic uncertainty, newly realized risks, and competitive wages in other sectors led to large losses in the child care workforce. Three years after the onset of the COVID-19 public health emergency, Utah's employment of childcare workers and preschool teachers has barely recovered to its pre-pandemic level.[2] Throughout this period, representatives of the State of Utah applauded child care workers as "unsung heroes" and invested in new ways to show appreciation to caregivers in the field.[3]

This report provides new insights into Utah's child care workforce by examining labor force characteristics and working conditions across child care occupations, evaluating the rewards to building human capital for workers in the industry, and recounting the factors that child care workers say keep them working in the trade. In the context of a market that consistently struggles to meet the needs of its workforce, this information offers a foundation for workers, employers, and policy makers to survey problems and build solutions that sustain and retain the child care labor force.

Key findings

    • Utah's child care workers are demographically distinct from Utah's labor force overall (Table 3.1). A higher share of child care workers are female and identify as people of color or Hispanic and Latino ethnicities than the workforce overall. The child care workforce is also

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1   Bureau of Labor Statistics Occupational Employment and Wage Statistics, May 2022, available at https://www.bls.gov/oes/current/oes_nat.htm.

2   The May 2022 Bureau of Labor Statistics State Occupational Employment and Wage Statistics show the number of workers in childcare and preschool teacher occupations in Utah declined by 10 percent from 2019 to 2020, rose slightly in 2021, and returned to the 2019 level in May 2022.

3   Department of Workforce Services, "Press Release July 2022: State of Utah announces $2,000 bonus for child care workers." Available at https://jobs.utah.gov/department/press/2022/071222.html.

younger than the overall workforce, but the high share of younger workers is primarily driven by overrepresentation in caregiving and teaching occupations.

- Child care worker wages cluster around the median of $15 per hour (Figure 3.10), which is significantly lower than the median for all occupations in the state. Eighty-nine percent of child care workers in Utah earn less than the state median for all occupations.

- Health insurance, retirement contributions, and paid sick leave are not available to most workers in the child care labor force (Figure 3.12). The most common form of workplace benefits are paid holidays and paid personal days, available to just half of child care workers.

- One in five child care workers holds an additional job or jobs to cover basic living expenses (Figure 3.9). An additional 10 percent of workers sometimes take on extra work to make ends meet.

- Child care worker motivations are centered on the well-being of the child and the role of child care in society (Section 4). The dominant theme in workers' responses to the question 'What is your main reason or motivator for working in the youth or early care and education field?' was the opportunity to make a positive impact on the world through child development and contributions to communities, families, and the future.

- Labor supply and demand factors can have a significant impact on wages (Section 5). Among all workers, more education and experience are associated with higher wages. But while these results are strongly positive for caregiving and teaching occupations, they are less prominent for other occupations, particularly owners and licensees. Labor demand factors such as the region and facility type where workers are employed also play a strong role in the wages of child care workers, with wage effects that have the potential to overshadow the advantages of education and experience in the field.

The following sections provide details about the data, methods, and findings from the Workforce Bonus survey. In Section 2: Data, we introduce and assess the Workforce Bonus survey data used throughout this report. In Section 3: Workforce Data Summary, we summarize the results of the survey to examine worker characteristics and working conditions in Utah's child care labor force. In Section 4 we turn to the qualitative experiences of work and examine workers' reported motivations for their work in the fields of child care and early education. Finally, in Section 5, we implement regression analysis to uncover the relationships between child care workers' wages and the principal labor supply and demand factors available in the Workforce Bonus survey data.

Section 2: Data

2.1 Data Source

The data in this report was collected by the Department of Workforce Services Office of Child Care as part of Utah's Youth and Early Care Workforce Bonus program. This program allocated funding from the state's Coronavirus Response and Relief Supplemental Appropriations toward a one-time payment of $2,000 to essential workers in the child care sector. Individuals employed or self-employed in the child care labor force completed the survey as part of their Workforce Bonus application between July 19th and August 31st, 2022.

Broad eligibility and a vigorous response to the Workforce Bonus program enabled the Office of Child Care to capture data for a large portion of the child care labor force. Applications required individuals to document a current provider license or employment verification from a range of eligible provider types and occupational categories. Owners and workers from licensed, license exempt, and Department of Workforce Services approved providers are represented in the data. Eligible workers include owners and licensees, directors, teachers and caregivers, coaches and coordinators, administrators, and other support occupations such as cooks, custodians, and drivers. With more than 10,000 applications from across the state representing a range of provider types and occupations, the Workforce Bonus survey data provides the largest sample of workers in Utah's child care sector available today.

2.2 Data Cleaning

Preparing the data for analysis required translation of Spanish-language applications to English, identification and removal of duplicate observations, data cleaning for key variables that enable use of the survey data in combination with other data sets, and merging the survey data with provider-level administrative data.

The Workforce Bonus survey was available to all respondents in both English and Spanish-language versions. In the original data, each respondent was associated with two surveys, one in each language option. Most of these survey pairs included one completed survey and one survey with no data entered. After dropping observations with no data entered, 113 cases (226 observations) remained where an individual survey respondent entered partial or complete data in both surveys, creating duplicate entries. These cases amount to 1 percent of the data. Each

of these 113 duplicate survey pairs were evaluated for completeness. In 104 cases the most complete survey version was retained. In 9 cases (0.08 percent of the original data set), survey responses were combined from two partially completed surveys.

After reducing the data to unique observations, the data set was prepared for combination with other data sources. The primary variable necessary to merge survey and administrative data is the Employer Facility ID number. This number is assigned to providers by the Office of Child Care Licensing and reported by child care workers in the survey. The reported identification numbers were edited for consistent formatting, including removing text and symbols from numerical identifiers, and then matched to a list of current child care provider facility ID numbers. Observations that did not match to a provider were reevaluated for data entry and formatting errors, and cases that did not match after reevaluation were individually reviewed for affiliation with current providers using the reported facility name and address. At the end of this process, 98.7 percent of observations were identified with a current child care provider.

The unique and cleaned survey data was merged with two administrative data sets: provider location and license data from Child Care Licensing and quality ratings from the Office of Child Care's Child Care Quality System (CCQS). The addition of this data embeds provider details for each respondent's place of work and expands the potential applicability of the data set to analyses based on provider type and quality rating category.

Most of the survey questions provided categorical response options which required no further cleaning. Only one remaining question, reported hourly wage, required a data management strategy for addressing outliers. The primary principle for adjusting this variable was to alter or eliminate as little of the data as possible. First, 1 negative value (amounting to 0.01 percent of the data) was dropped. Following this change just 1.5 percent of reported hourly wages were below Utah's $7.25 minimum wage. The majority of sub-minimum wage earners identified their position as owners and licensees, and 87 percent of remaining sub-minimum wage earners worked in home-based Family Licensed, Residential Certificate, and Family, Friend, and Neighbor Childcare. Since these owners and workers may legally earn a zero or sub-minimum wage per labor hour, all observations in this category were retained. At the top of the wage distribution, 13 observations (0.15 percent of the data) reported at $15,000 or more were inspected for full-time status and then reduced to hourly rates based on the conversion rate of salary/2080. Finally, the top 0.5 percent of the remaining data was winsorized at the 99.5th percentile. Since this approach only affects the uppermost tail of the income distribution, the

median wages reported in the following sections were not altered by the change. In all, just 0.66 percent of the hourly wage data were treated as outliers and dropped or modified.

2.3 Data Completeness

Assessing the validity of the Workforce Bonus survey data requires a measure of data completeness that compares the survey sample to the true population of the child care labor force. Although estimates of this labor force exist, there is no true population data. As a result, any measure of completeness is only an approximation.

Survey sources such as the US Census American Community Survey (ACS) and the Bureau of Labor Statistics Occupational Employment and Wage Statistics (OEWS) provide population estimates for some occupations and industries based on surveys of individuals (ACS) or business establishments (OEWS). Like any other survey data sources, the ACS and OEWS estimates are vulnerable to the possibility of sampling and non-sampling error, and population estimates at the state level include wide margins for error. Of the published estimates from these possible sources, the OEWS provides the most current data for Utah, the most complete coverage of the child care services industry and child care occupations across industries, and the most geographical detail. OEWS estimates include paid workers classified according to the Standard Occupational Classification system and exclude the self-employed. Since self-employed owners/providers are an important segment of the child care labor market, their omission from population estimates is a conspicuous shortcoming of the OEWS data.

The Workforce Bonus survey data includes 10,186 unique observations – a sample size several times larger than those available for Utah workers in similar industry and occupation groups in even the largest publicly available data sets. Omitting the 1,131 responses that reported their positions as owner or licensee leaves 9,055 observations representing wage and salary employees. Comparisons to workforce estimates from the OEWS demonstrate that the survey data provides sufficient representation for the most common industry of employment, the primary child care occupational categories across industries, and the geographic distribution of the labor force across the state. These comparisons are expressed in Tables 1 and 2, and in the explanations below.

OEWS estimates for May 2022 are available for Utah's Child Care Services industry as well as other industries that employ child care occupations. According to OEWS research estimates,

total employment in Utah's Child Care Services industry amounted to 7,290 workers in 2022. The Child Care Services industry includes establishments that provide care and early learning opportunities in a variety of settings for infants through school-aged children, but excludes care provided in schools and in youth and family services facilities. The industry-level estimate includes all occupational categories eligible for the Workforce Bonus.

The largest child care services occupations by employment are preschool teachers except for special education, childcare workers, and education and childcare administrators, preschool and daycare. The OEWS estimates employment among these occupations across industries at an additional 3,450 workers, bringing the labor force to a total of 10,740 employed child care workers in 2022. The total sample size for the Workforce Bonus survey data represents 95 percent of the population estimate including all occupations in the Child Care Services industry and the three most common child care occupations across all industries. The data set excluding owners and licensees represents 84 percent of the population estimate.

Table 2.1: Sample Size and OEWS Estimates of Child Care Employment

	Workforce Bonus Survey Total Sample Size	Workforce Bonus Survey Sample Size Excluding Self-Employed	BLS OEWS Employment Estimates for Utah
Child Care Services Industry, All Occupations	10,186	9,055	7,290
Child Care Services Industry, All Occupations and Child Care Occupations Across All Industries	10,186	9,055	10,740
Source: Bureau of Labor Statistics May 2022 State Occupational Employment and Wage Estimates, and Occupational Employment and Wage Research Estimates by State and Industry			

Geographic detail in the OEWS maps detailed occupations across metropolitan and nonmetropolitan statistical areas for each state. This data provides employment estimates for the three largest child care occupations in Utah – preschool teachers except for special education, childcare workers, and education and childcare administrators, preschool and daycare. The geographic share of employment in these occupations derived from the OEWS employment estimates is presented for each metropolitan and nonmetropolitan area in Table 2.

As shown in Table 2, responses to the Workforce Bonus survey closely match the geographic distribution of child care employment in the state. These OEWS estimates provide evidence supporting the geographic representativeness of child care occupations in the survey data.

Table 2.2: Workforce Bonus Survey and OEWS Estimates of Child Care Employment Shares by Metropolitan and Nonmetropolitan Statistical Area

Metropolitan and Nonmetropolitan Areas	Share of Survey Responses	OEWS Estimated Share of Employment in Childcare Occupations
Logan	5%	5%
Ogden-Clearfield	20%	21%
Provo-Orem	15%	17%
Salt Lake City	45%	45%
St. George	5%	4%
Central Nonmetropolitan Area	4%	3%
Eastern Nonmetropolitan Area	5%	5%
Source: Bureau of Labor Statistics May 2022 Metropolitan Area Occupational Employment and Wage Estimates		

Comparing the Workforce Bonus survey data to occupational employment estimates and geographic detail from the OEWS shows that the survey data achieves a high degree of completeness in terms of occupational and geographic representation. Based on these findings and the lack of worker/owner population data sources, no weights are applied to the data in this report.

2.4 Data Currency

The Office of Child Care collected survey responses from July 19th through August 31st, 2022 as part of the Youth and Early Care Workforce Bonus program application. The data describes conditions in the child care labor market during the application period. The unique $2,000 Workforce Bonus opportunity made available by the Office of Child Care reflects extraordinary circumstances for child care workers since the onset of the COVID-19 public health emergency, including heightened risk and increased demands associated with elevated staff turnover rates and shortages. At the time of the survey, in addition to the Workforce Bonus program, Child

Care Stabilization Grants were available to a large portion of providers. Under the grant program, providers were eligible for enhanced grant opportunities if they paid at least 51 percent of staff a wage equal to $15 per hour or more. This incentive policy may have raised average and median wages in some markets. Although the application period for Child Care Stabilization Grants ended on July 31st, 2022, qualifying providers will earn funding through 2023. The duration of this program suggests the potential for continued effects on child care labor markets through the end of the funding period.

Section 3: Workforce Data Summary: Worker Characteristics and Working Conditions in Utah's Child Care Labor Force

3.1 Overview

The survey data collected through the Workforce Bonus Program provides a uniquely detailed perspective on workers in the youth and early care and education professions in Utah. The following sections summarize this data with attention to the worker characteristics and working conditions reported in the survey. We report the demographic characteristics, work experience, hours, wages, and benefits of workers both for the child care workforce as a whole and by occupational category. Comparing these survey results to labor market conditions in Utah generally reveals a child care workforce that is proportionately more female, more likely to identify as a person of color or Hispanic ethnicity, and includes a higher share of younger workers than Utah workers as a whole. In contrast, child care workers are only slightly less likely to have attained a higher education degree or to work full-time hours. Large gaps, however, appear in labor market outcomes such as wages and benefits. Utah's child care workers earn a median hourly wage significantly below the median for all occupations in the state. Child care workers are also far less likely to have employer-provided health care available through their jobs, even when the analysis is narrowed to consider only full-time workers. And finally, child care workers are much more likely to work multiple jobs to meet their basic needs. These statistics for the child care workforce survey sample and the Utah labor force overall are reported in Table 3.1 below. These figures are reported in more detail in the sections that follow.

Table 3.1: Worker Demographics and Labor Market Outcomes for Utah's Child Care Workforce and Total Labor Force

	Child Care Labor Force Survey Sample	Utah Total Labor Force
Percent Female	89%	45%
Percent identifying as White	83%	91%
Percent with Hispanic ethnicity	20%	14%
Percent aged 16 to 24	33%	20%
Percent with a bachelor's degree or higher	31%	33%
Percent of employed working full time, year-round	59%	62%
Percent of full-time workers with employer-provided health insurance	52%	79%
Median hourly wage	$15	$21.38
Percent working multiple jobs	21%	5%
Sources: Utah Department of Workforce Services Office of Child Care Workforce Bonus Program Survey Data. Utah labor force gender, race, ethnicity, and educational attainment from Bureau of Labor Statistics Geographic Profile of Employment and Unemployment, Utah 2021 Tables 14 and 15. Utah age share from Bureau of Labor Statistics Preliminary 2022 Local Area Unemployment Statistics Expanded State Employment Status Demographic Data. Utah full-time year-round employment share from American Community Survey Table C23022. Utah employment-provided health insurance estimate from American Community Survey Table C27012. Utah median hourly wage from Bureau of Labor Statistics May 2022 State Occupational Employment and Wage Estimates. And Utah multiple job holders from and Utah Department of Workforce Services Report "Utahns Who Work Multiple Jobs at the Same Time, Dec. 2021".		

The following summary of survey data is reported for the full survey sample and for occupations or occupation groups. Fourteen occupation titles were included in the survey, representing a diverse workforce. Child care workers include paid and unpaid teachers and caregivers, in center-based, home-based, workplace, and public-school settings. They also include teams of administrative professionals, educational consultants, and support staff that facilitate care. In national statistics, the diversity of tasks within the child care and early education services presents a challenge for defining and quantifying the population of child care workers. But the detailed occupational information available in the Workforce Bonus survey provides a fuller picture of the composition of Utah's child care workforce. Figure 3.1 presents the full spectrum and representation of occupational titles included in the Workforce Bonus survey.

Figure 3.1: Child Care Occupations in the Workforce Bonus Survey
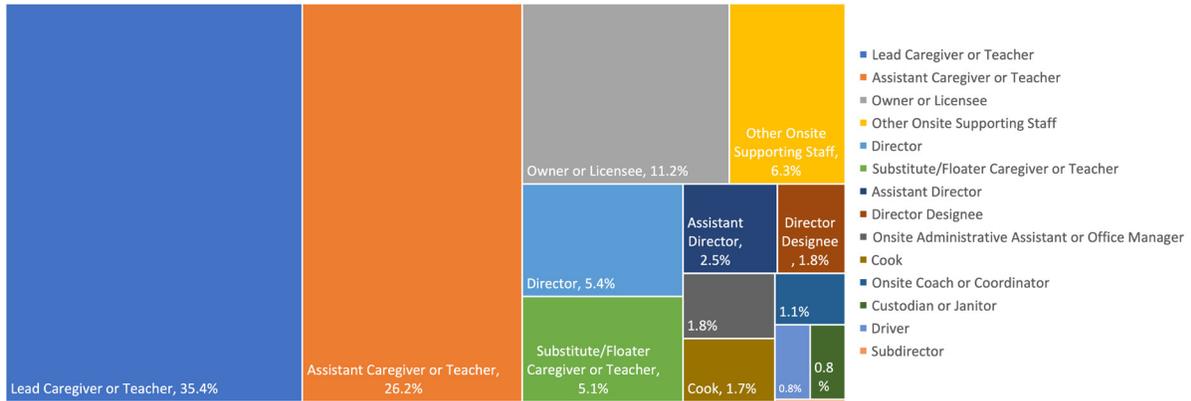
Throughout this report the 14 occupation titles presented in Figure 3.1 are grouped into the following four occupational categories: caregivers and teachers, owners and licensees, administrative leadership, and support positions. The four categories make it possible to compare characteristics between job types, but are not always adequate to illustrate the variation among workers. For this reason, the full child care labor force, occupation categories, and individual occupations are presented separately for some data and comprehensive survey findings for each individual occupation in the survey are included in Appendix A.

• Teachers and caregivers are the most common occupational group among survey respondents, representing two-thirds of surveyed workers. These include lead caregivers and teachers (35.4 percent), assistant caregivers and teachers (26.2 percent), and substitute or floater caregivers or teachers (5.1 percent). Caregivers work across the full range of child care settings, but as the largest employers, center-based providers house the largest share. Seventy-eight percent of teachers and caregivers are employed at centers and commercial preschools, 15 percent are employed at licensed family providers, and 6 percent at school age programs.

• Owners and licensees comprise 11.2 percent of reported positions. Among this group, 78 percent work in home-based provider categories including licensed family, residential certificate, and family, friend, and neighbor providers.

• Administrative leadership including directors (5.4 percent), assistant directors (2.5 percent), director designees (1.8 percent), coaches and coordinators (1.1 percent) and subdirectors (0.1 percent) are 10.9 percent of reported positions. Ninety-three percent of workers in administrative leadership positions are employed at centers, commercial preschools,

and school age programs.

　　• Other supporting staff make up a significant portion of the labor force, at 11.3 percent. these positions include administrative assistants (1.8 percent), cooks (1.7 percent), custodians and janitors (0.8 percent), drivers (0.8 percent), and other support positions (6.3 percent). Among these support occupations 86 percent are employed at centers, commercial preschools, and school age programs.

3.2 Demographic Characteristics of the Child Care Workforce – Gender, Race, Ethnicity, Age, and Language

As shown in Table 3.1, Utah's child care workers are demographically distinct from the Utah labor force overall. Figures 3.2 through 3.4 and Table 3.2 provide more detail about reported genders, races, Hispanic or Latino ethnicity, age, and language among the child care workforce.

Figure 3.2: Child Care Worker Reported Gender for All Occupations and Occupations by Group
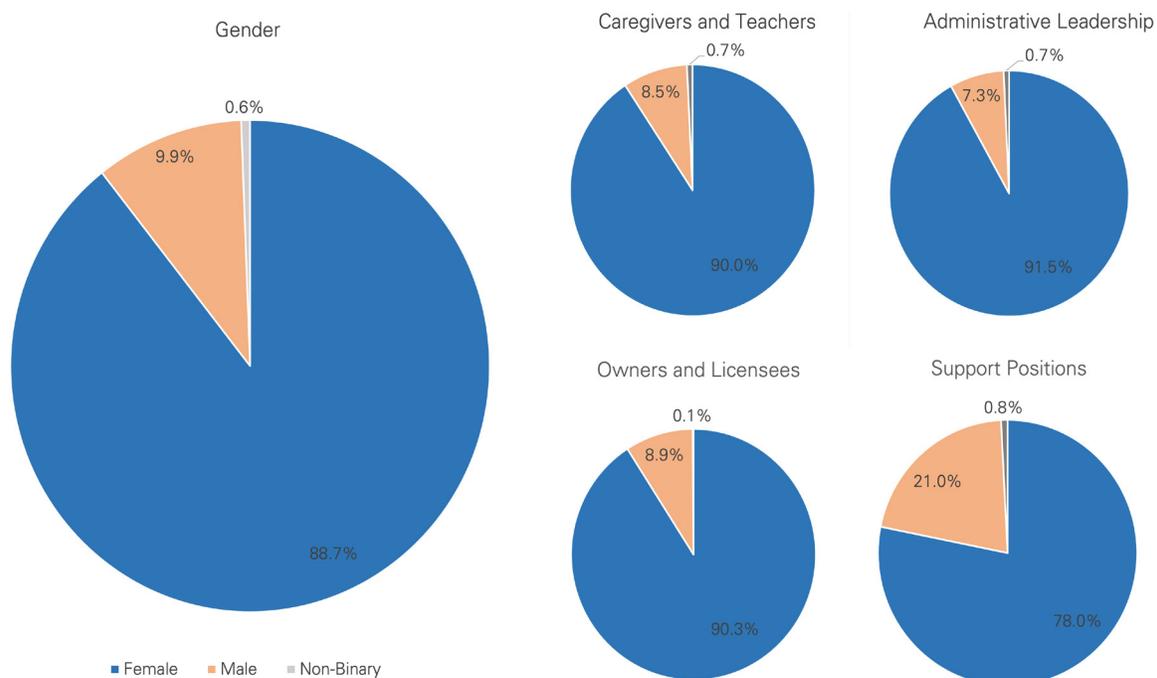
• The child care labor force is predominantly female, and almost twice as likely to be female as workers in Utah's civilian labor force overall. Among workers in the survey sample, 88.7 percent identified as female, 9.9 percent identified as male, and 0.7 percent identified as non-binary or other genders. Utah's labor force is 45.3 percent female.[4]

• High representation of females across occupations in the child care sector gives rise to high rates of female representation in leadership positions. Occupations with more than 90 percent of respondents reporting female identify include lead caregivers, directors, assistant directors, and director designees, coaches and coordinators, and owners and licensees.

• Only two occupations in the sample are not overwhelmingly female: drivers (at 42.3 percent female) and custodians or janitors (at 39.7 percent female). In all other occupations in the child care labor force, at least 80 percent of workers identified as female. More detail about the gender composition of individual occupations is included in Appendix Table A1.

Table 3.2 Child Care Worker Race and Ethnicity for All Occupations and Occupations by Group

	Hispanic or Latino Ethnicity (any race)	Asian	Black or African American	Native American and Alaska Native	Pacific Islander and Native Hawaiian	White	Other	Declined
All Child Care Occupations	20.5%	0.8%	3.0%	1.2%	0.8%	83.4%	8.5%	2.4%
Caregivers and Teachers	20.5%	0.8%	2.9%	1.1%	0.9%	83.3%	8.8%	2.2%
Administrative Leadership	18.9%	0.8%	2.3%	1.6%	0.5%	85.0%	7.1%	2.7%
Owners and licensees	19.3%	0.8%	2.0%	1.8%	0.5%	84.8%	7.1%	3.0%
Support Positions	22.4%	0.5%	2.6%	1.5%	0.8%	83.5%	8.9%	2.2%

• While most survey respondents reported their race as White, the employment share of people of color in the industry is higher than in the civilian labor force in Utah. Among survey

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4   Bureau of Labor Statistics Geographic Profile of Employment and Unemployment, 2021 Table 14. Available at https://www.bls.gov/opub/geographic-profile/.

respondents, 83.4 percent reported their race as White, 3.0 percent reported their race as Black or African American, 1.2 percent as Native American or Native Alaskan, 0.8 percent as Pacific Islander and Native Hawaiian, 0.8 percent as Asian, and 8.5 percent as some other race. According to the Bureau of labor Statistics, 91.2 percent of Utah's total labor force identifies as White.[5]

• Workers identifying as 'some other race' (other than the options presented) are the second-largest group among all child care workers, at 8.5 percent. This group makes up more than 10 percent of coaches and coordinators, cooks, and administrative assistants and office managers. More detail about race and ethnicity by occupation is available in Appendix Table A2.

• Twenty percent of the survey sample reported Hispanic ethnicity, compared to 14.2 percent in Utah's civilian labor force.[6]

Figure 3.3 Child Care Worker Age for All Occupations and Occupations by Group
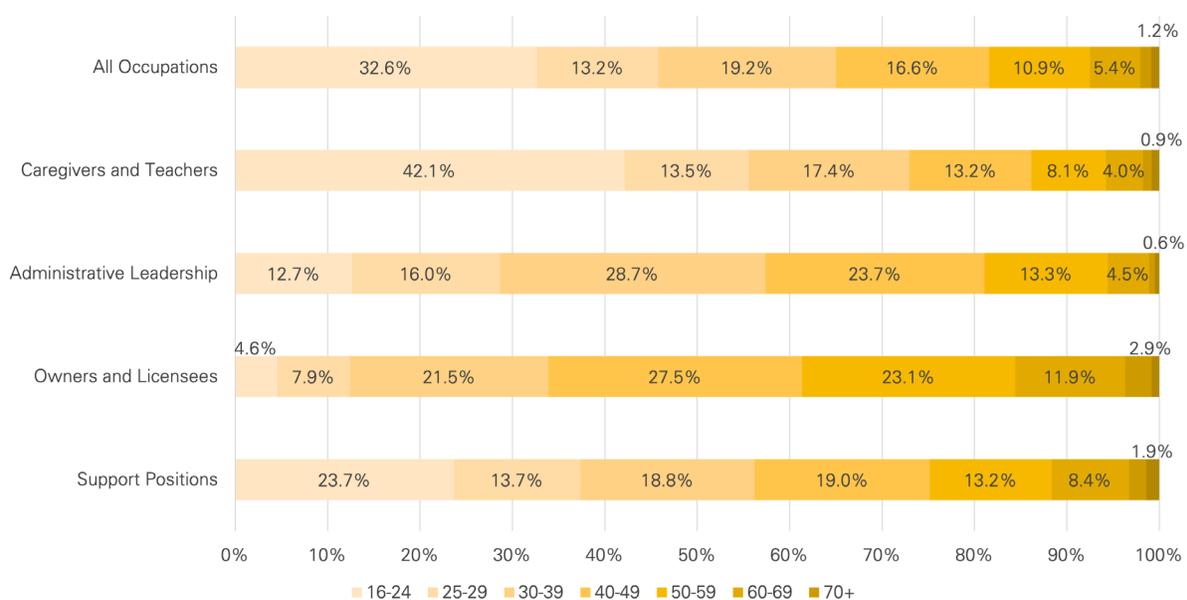
Young workers are over-represented in the child care workforce, relative to Utah's labor force as a whole. However, non-standard age categories in the survey make comparisons to the labor

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5   Ibid. Other race categories are not available in the BLS Geographic Profile for Utah 2021.
6   Ibid.

force difficult for other age categories.

• The overrepresentation of workers under age 25 in child care is driven by employment in the largest occupation category, caregivers and teachers, where 42 percent of workers are ages 16 to 24. Occupations in administrative leadership and owners and licensees actually exhibit much smaller shares of young workers than the labor force overall, with 12.7 percent of administrative leadership and just 4.6 percent of owners and licensees members of the 16 to 24 age group.

Figure 3.4 Primary Language of Child Care Workers, All Occupations
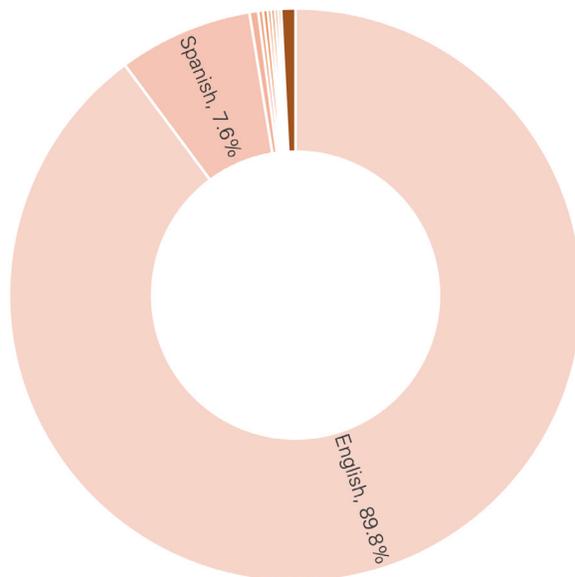
More than 30 different primary languages were reported in the sample. The most common language was English, at 89.8 percent, followed by Spanish at 7.6 percent. Multiple observations of other languages such as Somali, Persian, and Portuguese appeared in the sample, but even the most common of these was reported by less than 1 percent of workers.

3.3 Work Experience, Education, and Credentials

This section evaluates the reported human capital characteristics of child care workers, including years of experience, education, and attainment of the Child Development Associate (CDA) credential.

Figure 3.5 Years Worked in Youth or Early Care and Education for All Occupations and Occupations by Group

Legend: ■ All Occupations ■ Caregivers and Teachers ■ Administrative Leadership ■ Owners and Licensees ■ Support Positions
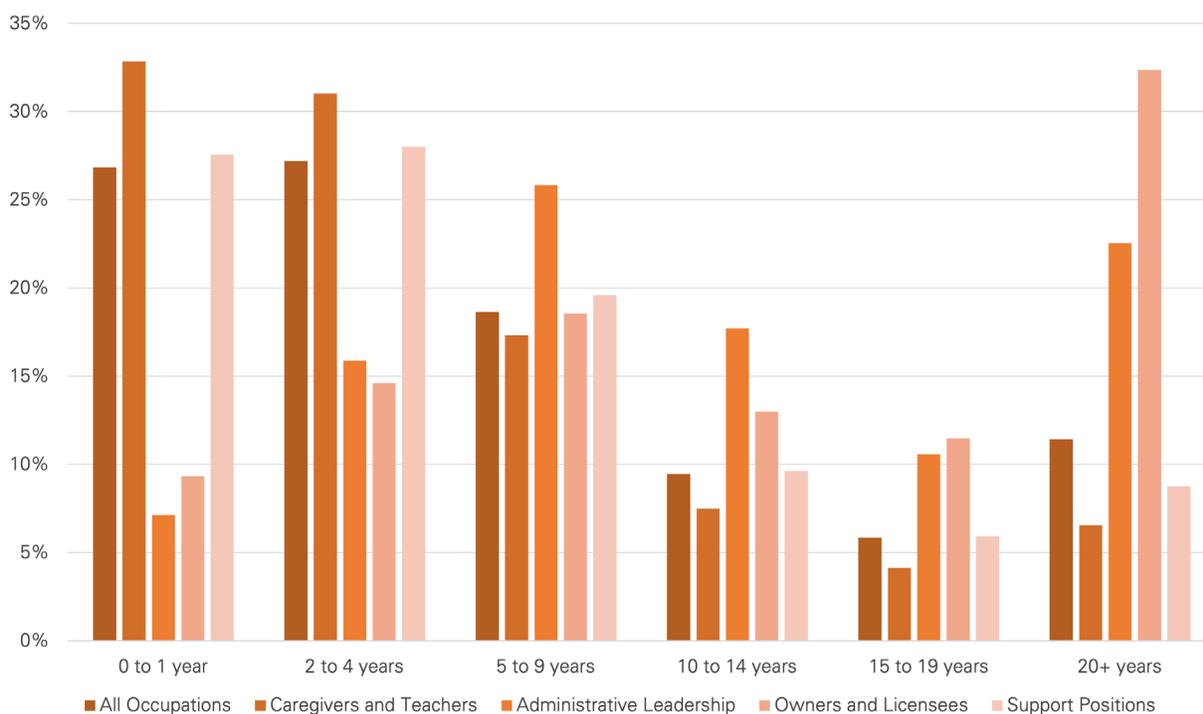
Years of experience in the youth or early care and education field (Figure 3.5) closely reflects the findings in Figure 3.3 regarding age demographics by occupation group. Occupations that skew younger, like caregivers and teachers, are the least likely to have amassed experience in the field, while a large share of owners and licensees and those in administrative leadership positions report decades of experience.

- More than one quarter (26.8 percent) of all child care workers in Utah have one year or less experience in the field, and more than half (54.0 percent) have less than 5 years of experience.

- Overall low levels of experience result from the influence of few years of experience among the most common positions in the industry – caregivers and teachers – on the workforce statistics. Among caregivers and teachers 63.8 percent have been in the field less than 5 years. This finding reflects the younger age of workers in these occupations, where 42 percent of workers are under the age of 25.

- Within the caregiving and teaching occupations, the fewest years of experience occur

among assistant, substitute, and floater teachers and caregivers. Among assistant teachers, 42.6 percent have 1 year or less experience and 75.0 percent have less than 5 years. Among substitute and floater positions, 43.1 percent have one year of experience or less and 71.9 have less than 5 years. For more experience data by occupation, see Appendix A.

• Owners and licensees report more years of experience than the workforce as a whole. Among owners and licensees, 32.4 percent have worked in youth and early education for 20 or more years. More than half (56.8 percent) have worked in the field for at least 10 years.

• Workers in administrative leadership roles are also likely to have amassed years of experience. In this category, 22.5 percent have worked in youth and early care and education for 20 or more years, and 50.8 percent have worked in the field for at least 10 years.

• Directors are the occupation with the largest share of workers reporting more than 10 years of experience, at 62.5 percent.

Figure 3.6 Percent of Child Care Workforce with a Child Development Associate (CDA) or Equivalent Credential for All Occupations and Occupations by Group
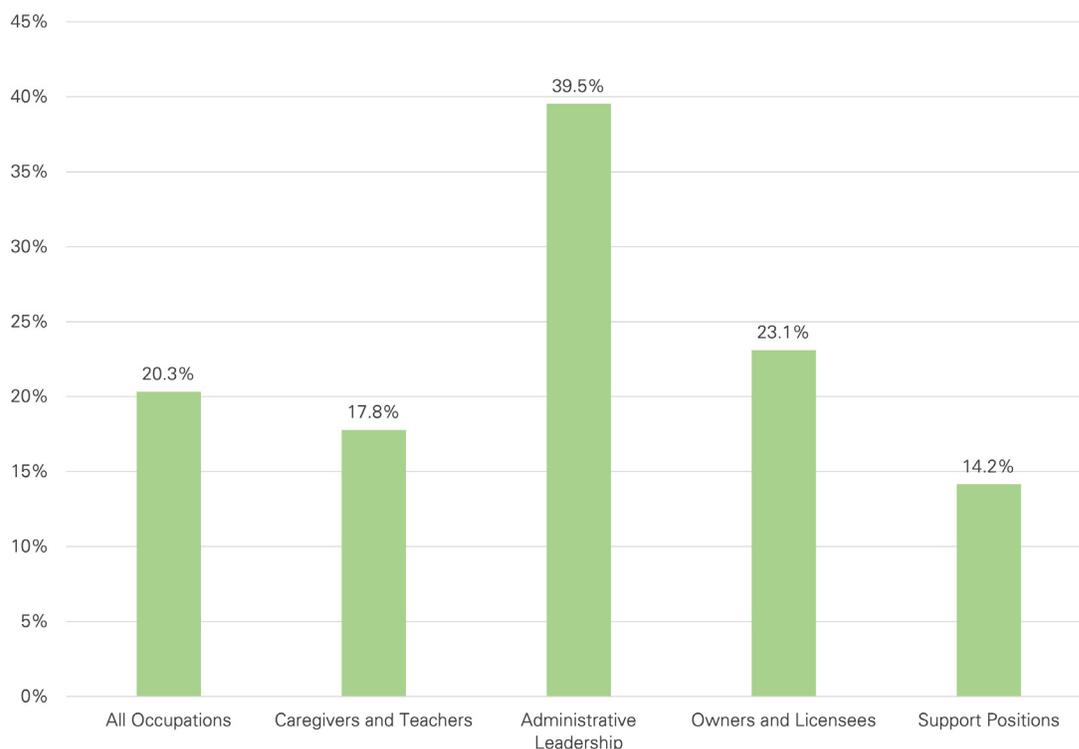
The CDA credential is a nationally recognized professional credential for early childhood educators, indicating knowledge of professional standards and best practices for teaching young children. Utah's child care workers are eligible for full financial support for attaining and maintaining a CDA credential through the Department of Workforce Services Office of Child Care.

 • One in five child care workers in Utah has a current CDA credential or an equivalent credential.

 • Workers in administrative leadership positions are most likely to have current credentials. Almost 40 percent of workers in this occupational category report a current CDA or equivalent credential.

Figure 3.7 Educational Attainment of Child Care Workforce (All Ages) for All Occupations and Occupations by Group
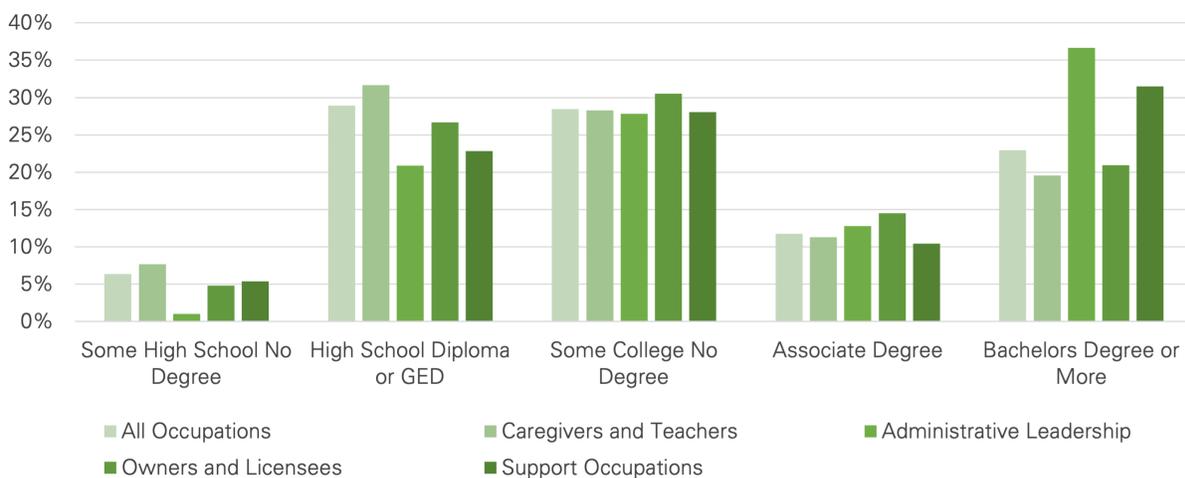
In the child care services sector, entry level education requirements vary by position and setting but there is no strict degree requirement for employment in the field. As shown in Figure 3.7, workers report a variety of educational levels in every occupation category. However, more than 90 percent of workers in every occupation group and 93 percent of child care workers overall have at least a high school diploma or GED.

• The largest share of workers with a high school diploma or less education occurs among caregivers and teachers, where 39.3 percent of workers report having attained a high school diploma, a GED, or less education.

• Most child care workers have attended at least some college, with 63 percent of workers in the field reporting some college or more education. Fifty-nine percent of caregivers, 77 percent of administrative leadership, 65.9 percent of owners and licensees, and 69.9 percent of support occupations have attended some college or attained a degree.

• Workers in administrative leadership roles are most likely to report having a bachelor's degree or more. In this occupation category 25.3 percent of workers report holding a bachelor's degree and 11 percent report having attained a masters degree.

• Coaches and coordinators are the most educated occupation in the workforce and the most likely occupation to hold a master's degree. Fifty-two percent of coaches and coordinators have attained a bachelor's degree or more and 20.4 percent have a master's degree. More detail for individual occupations is included in Appendix A.

Figure 3.8 Major Degree Fields Among Child Care Workers with at Least Some College, All Occupations

Early Childhood Education 20.6%

Other Major or Emphasis 42.8%

Elementary Education 14.2%

Related Major (Child Development, Family Studies, Educational Psychology, etc) 22.5%
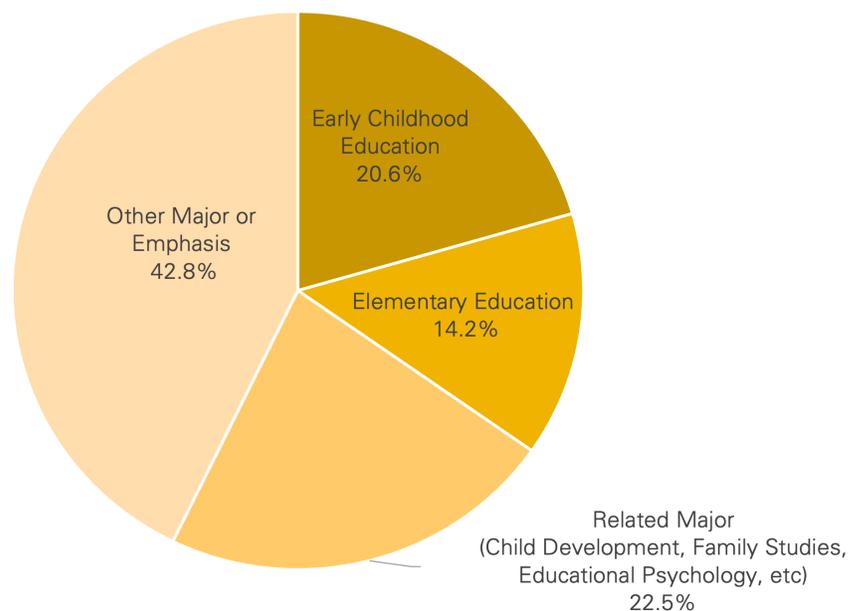
Most child care workers that attended some college or attained a degree focused their studies on degree fields or emphases related to child care, development, and education. Among all child care occupations, 57.2 percent of workers with at least some college focused on early childhood education, elementary education, or another related major.

3.4 Working Hours – Weekly Hours, Annual Schedules, Multiple Job Holders

This section presents the survey results for working conditions related to scheduling and working multiple jobs.

Table 3.3 Hours Worked Per Week for All Child Care Occupations and Occupations by Group

	1 to 19 Hours	20 to 29 Hours	30+ Hours
All Occupations	15.4%	19.1%	64.6%
Caregivers and Teachers			
Lead Caregiver or Teacher	9.5%	15.3%	74.3%
Assistant Caregiver or Teacher	25.1%	31.8%	42.4%
Substitute or Floater Caregiver or Teacher	40.4%	19.5%	37.5%
Administrative Leadership	5.1%	9.8%	84.6%
Owners and licensees	4.1%	5.7%	88.6%
Support Positions	21.5%	23.2%	54.5%

Most child care workers in Utah are employed at least 30 hours per week, with 65 percent of all workers and the majority of workers for each occupation group reporting full-time hours. Only a few individual occupations reported in the survey are majority part-time: assistant, substitute, or floater caregivers and teachers, drivers, and custodians or janitors. information on weekly hours by occupation is included in Appendix A.

• Assistant, Substitute, and floater caregivers and teachers are among the occupations with the lowest reported rates of full-time employment in the survey and are notably distinct from lead teachers in this regard. While 74.3 percent of lead teachers report working 30 or more hours per week, just 42.4 percent of assistant teachers and 37.5 percent of substitute and floater caregivers and teachers report working 30 or more hours per week.

• Administrative leadership positions and owners and licensees report the highest rates of full-time work. Ninety percent of directors and 88 percent of owners and licensees in the sample work 30 or more hours per week.

• Custodians and janitors report the lowest shares of employment at 30 hours per week or more, with just 23.1 percent of workers in these occupations working full-time schedules.

Table 3.4 Annual Work Schedules of the Child Care Workforce for All Occupations and Occupations by Group

	Year Round	School Year Only	Summer Only
All Occupations	81.9%	15.7%	1.4%
Caregivers and Teachers	78.8%	18.4%	1.8%
Administrative Leadership	90.6%	8.2%	0.4%
Owners and licensees	95.6%	2.9%	0.0%
Support Positions	78.0%	19.7%	1.5%

Child care labor is largely a year-round job, with most workers in the industry reporting employment 12 months per year regardless of occupation. Overall, 82 percent of workers in the child care labor force have a year-round schedule. Summer-only schedules are the least common among survey respondents, with less than two percent of workers in any occupation category reporting summer-only employment.

Figure 3.9 Share of the Child Care Workforce that Holds an Additional Job or Jobs to Cover Basic Living Expenses, All Occupations

All Occupations

Yes, 21.0%

Sometimes, 10.3%

No, 66.5%
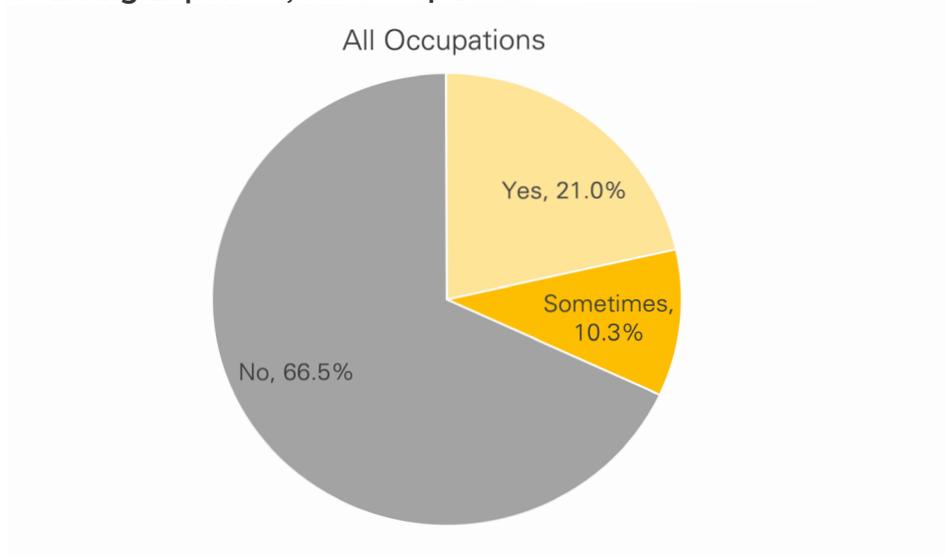
As many as one in five child care workers cannot cover their basic living expenses through their primary child care employment and must work an additional job or do other paid labor to make ends meet. As shown in Table 3.1 at the beginning of this section, multiple job holders are much more prevalent in the child care workforce than in Utah's labor force overall, where just one in twenty workers reports working multiple jobs. In the Workforce Bonus Survey, 21 percent of respondents answered 'Yes' to the question Do you hold an additional job(s) or do other paid work to cover your basic living expenses? Another 10.3 percent answered 'Sometimes.'

3.5 Wages and Benefits

Nationally and in the state of Utah, child care workers are among the lowest-paid occupations in the economy. This section evaluates labor compensation in the child care sector, including wages and benefits.

Figure 3.10 Hourly Wage Distribution for Utah's Child Care Labor Force, All Occupations
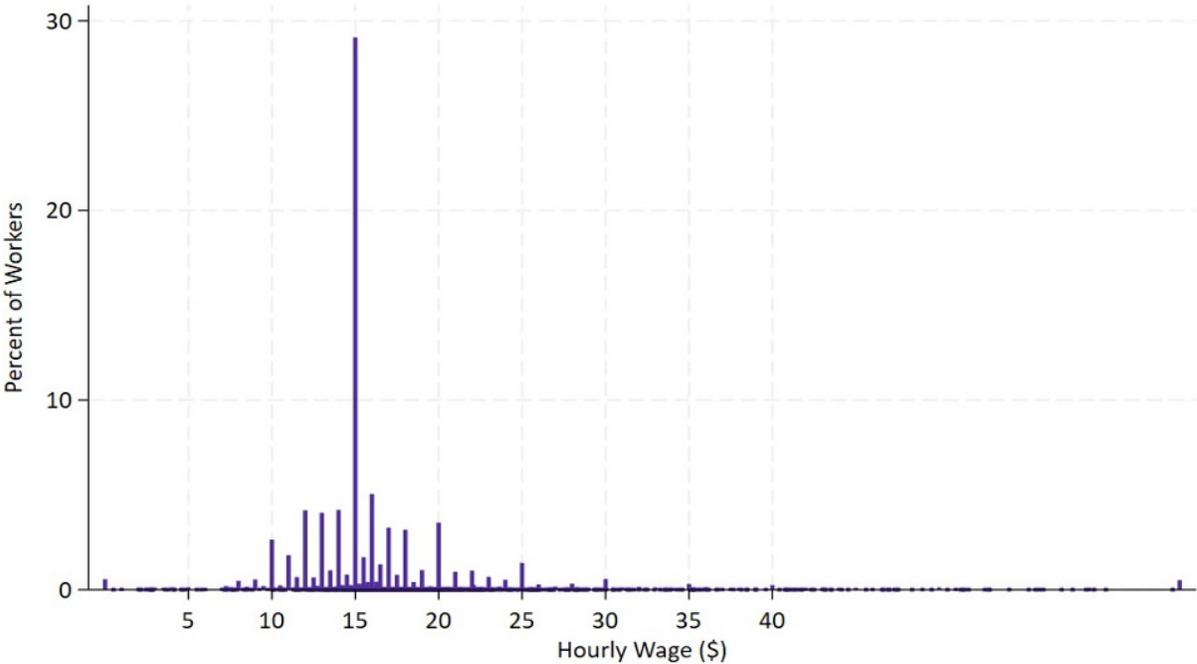
Workers in the child care sector reported a range of hourly wages, but 90 percent of workers earn $22 per hour or less. As shown on the wage distribution portrayed in Figure 3.10, wages are largely clustered around the mode at $15 per hour. Although clustered wages are sometimes observed in data as a result of survey respondents rounding to the nearest dollar, existing policy that provides incentives for a $15 per hour wage in the child care sector supports the conclusion that employers are likely to pay exactly $15 per hour for many workers. It is not surprising to find the highest share of workers are paid at exactly this threshold.

• The median wage for workers in all child care occupations is $15 per hour. Almost 30 percent of workers in the survey reported earning exactly the median wage.

• As shown in Table 3.1, the median wage in the child care labor market is much lower than the $21.38 median hourly wage for all occupations in Utah. In the Workforce Bonus survey, 88.5 percent of workers in all child care occupations report earning less than the state median.

Figure 3.11 shows median wages by occupation and Table 3.5 presents more information about the wage distribution for each occupation.

Figure 3.11 Median Hourly Wage by Occupation
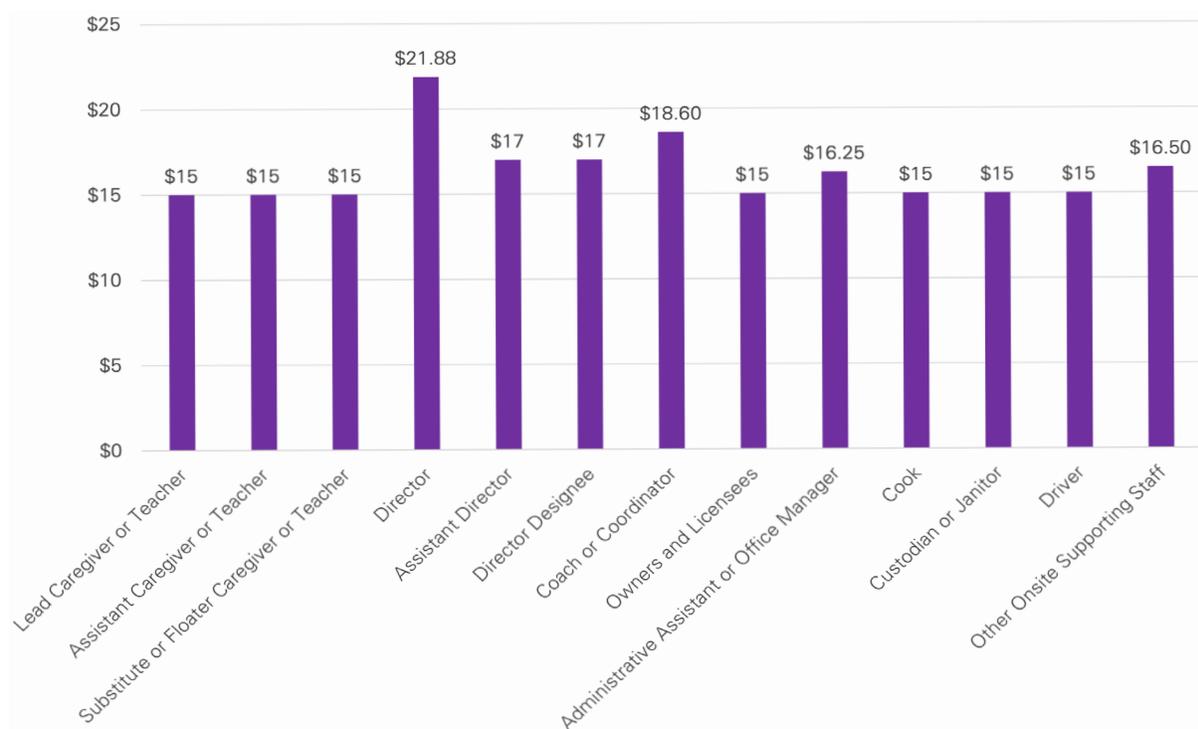
- Administrative leadership positions report higher wages at the median; all occupations in this group earn a median wage greater than $15 per hour. Directors earn the highest median wage, at $21.88 per hour, followed by onsite coaches and coordinators at $18.60. assistant directors and director designees both report a median wage of $17 per hour.

- Owners and licensees report a median wage of $15 per hour. This median wage aligns with those of caregivers and teachers and some support positions. Yet the labor performed by owners and licensees is more akin to that of directors, encompassing organization and management as well as caregiving activities.

- Approximately 14 percent of owners and licensees report earning an hourly rate less than the minimum wage. As shown in Table 3.5, the 10th percentile of hourly wages in these occupations is $4. Many workers in this group earn business income, as opposed to labor income, and work hours well beyond a 40 hour per week schedule. As a result, calculating an hourly rate of income reveals low levels of monetary compensation for a significant portion of owners and licensees.

- Administrative assistants and other support occupations diverge from the support positions generally at the median. While cooks, custodians, janitors, and drivers all report at $15 median wage, the median hourly wage of administrative assistants and office managers is $16.25, and the median wage of other support occupations is $16.50.

- Lead, assistant, substitute, and floater caregivers and teachers all earn a median hourly wage of $15. However, the wage distribution for these occupations shows that lead teachers at the 10th and 25th percentiles of the wage distribution for their occupation earn higher wages than assistant, substitute, and floater caregivers and teachers at the 10th and 25th percentiles. And lead caregivers and teachers at the 75th and 90th percentiles earn more per hour than assistant, substitute, and floater caregivers and teachers at the 75th and 90th percentiles.

Table 3.5: Selected Percentiles of the Hourly Wage Distribution by Occupation

Selected Percentiles of Hourly Wage Distribution by Occupation						
	10th	25th	50th	75th	90th	n
All Occupations	$12	$14	$15	$17.50	$22	8,118
Caregivers and Teachers						
Lead Caregiver or Teacher	$12.25	$15	$15	$17.21	$21	3,051
Assistant Caregiver or Teacher	$11	$13	$15	$15	$17.14	2,291
Substitute or Floater Caregiver or Teacher	$11.47	$13	$15	$15	$16.21	441
Administrative Leadership						
Director	$15	$18	$21.88	$26.89	$35	396
Assistant Director	$15	$15	$17	$19.25	$23	212
Director Designee	$15	$15	$17	$21	$24	152
Coach or Coordinator	$15	$17	$18.60	$22.50	$32	84
Owners and licensees	$4	$13	$15	$20.25	$30	573
Support Occupations						
Administrative Assistant or Office Manager	$14	$15	$16.25	$19.05	$22.40	154
Cook	$12	$14.32	$15	$15.78	$17.50	146
Custodian or Janitor	$10	$14	$15	$16	$20	60
Driver	$13	$15	$15	$18.07	$21.90	60
Other Onsite Supporting Staff	$13.50	$15	$17	$22	$35.60	488

Figure 3.12: Benefits Available to Child Care Workers - All Workers and Full-time Workers in All Occupations
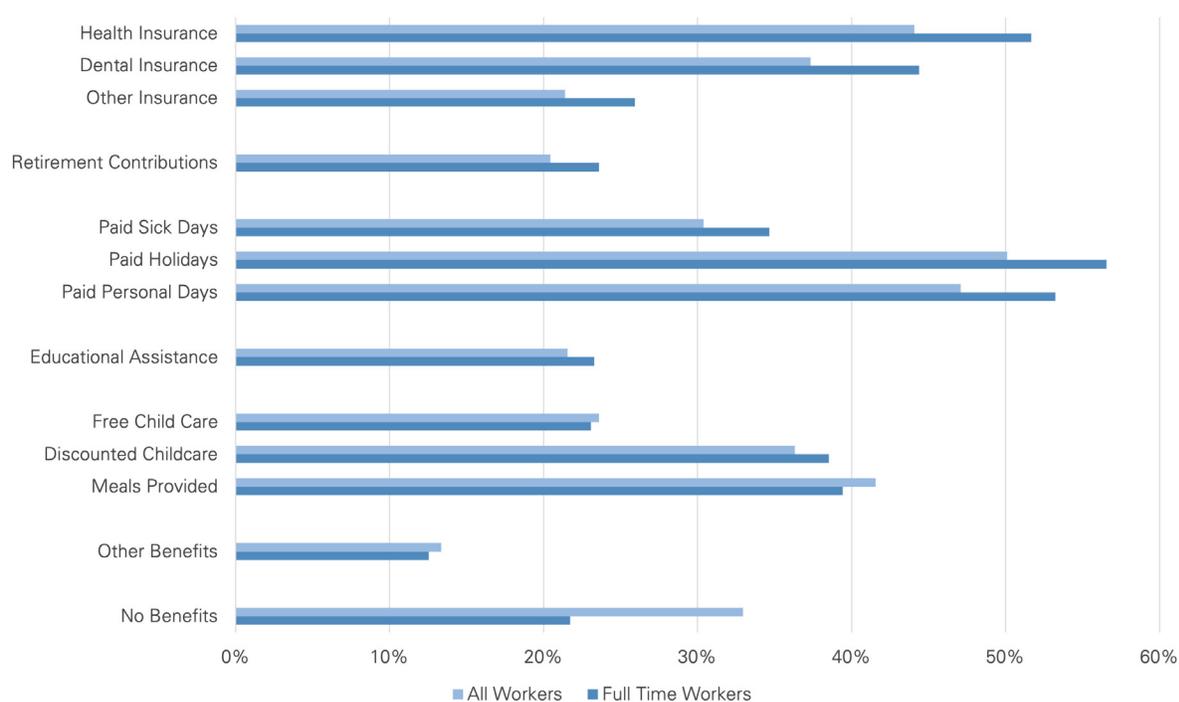
Figure 3.12 shows the share of all workers who reported benefits available through their employer, and the share of full-time workers reporting benefits available.

• As shown in the figure, more than 30 percent of all workers have no employment benefits available. Among full-time workers, 21.7 percent do not earn benefits as part of labor compensation.

• Insurance and retirement benefits are not available through an employer for a majority of the child care labor force in Utah.

• Retirement contributions are relatively rare. Only 20.4 percent of all workers and 23.6 percent of full-time workers earn retirement benefits through their employers.

• Paid holidays and paid personal days are the most common benefits available to workers in the child care field. Fifty percent of all workers earn paid holidays from their employer. Forty-seven percent earn paid personal days.

• Free child care is available to 23 percent of the child care workforce, but discounted child

care is more prevalent. Discounted child care is available to 36.3 percent of child care workers. Figures 3.13 through 3.15 show the share of workers reporting access to benefits by occupation.

- Support positions and administrative leadership occupations are the most likely to report access to insurance benefits, retirement benefits, and paid time off. Fifty-seven percent of administrative leadership workers and 59.7 percent of workers in Support Positions have access to health insurance benefits. Though these groups have the most widely available insurance benefits, access is still much lower than for the Utah labor force in general.

- Owners and licensees are unlikely to have insurance, retirement, or paid leave benefits available through their work. Only 13.6 percent of owners and licensees have employer provided health insurance. Just 7 percent of owners and licensees have retirement benefits.

- Slightly more than half (52.2 percent) of owners and licensees have no workplace benefits, including insurance, leave, or in-kind benefits.

- Caregivers and teachers do not have broad access to any workplace benefits. Forty-two percent of workers in these occupations have employer provided health insurance and 17 percent earn retirement contributions. The benefits with the greatest reported availability among caregivers and teachers are paid holidays, paid personal time off, and meals provided.

- Most workers in the child care sector do not have paid sick leave. Just 30.4 percent of all workers have access to this crucial benefit. Caregivers and teachers and owners and licensees are the least likely to have paid sick days.

Figure 3.13: Availability of Insurance and Retirement Benefits Through Employment for All Occupations and by Occupation Group
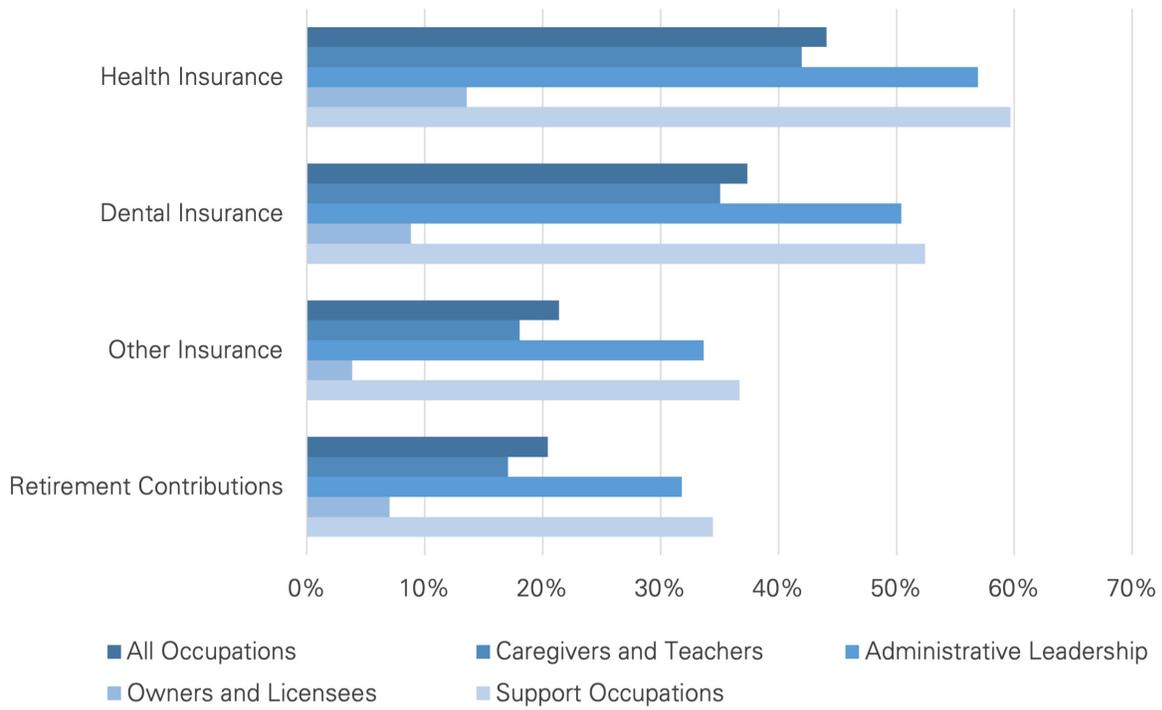
Figure 3.14: Paid Time Off Benefits Available to the Child Care Workforce for All Occupations and by Occupation Group

Legend:
- All Occupations
- Caregivers and Teachers
- Administrative Leadership
- Owners and Licensees
- Support Occupations
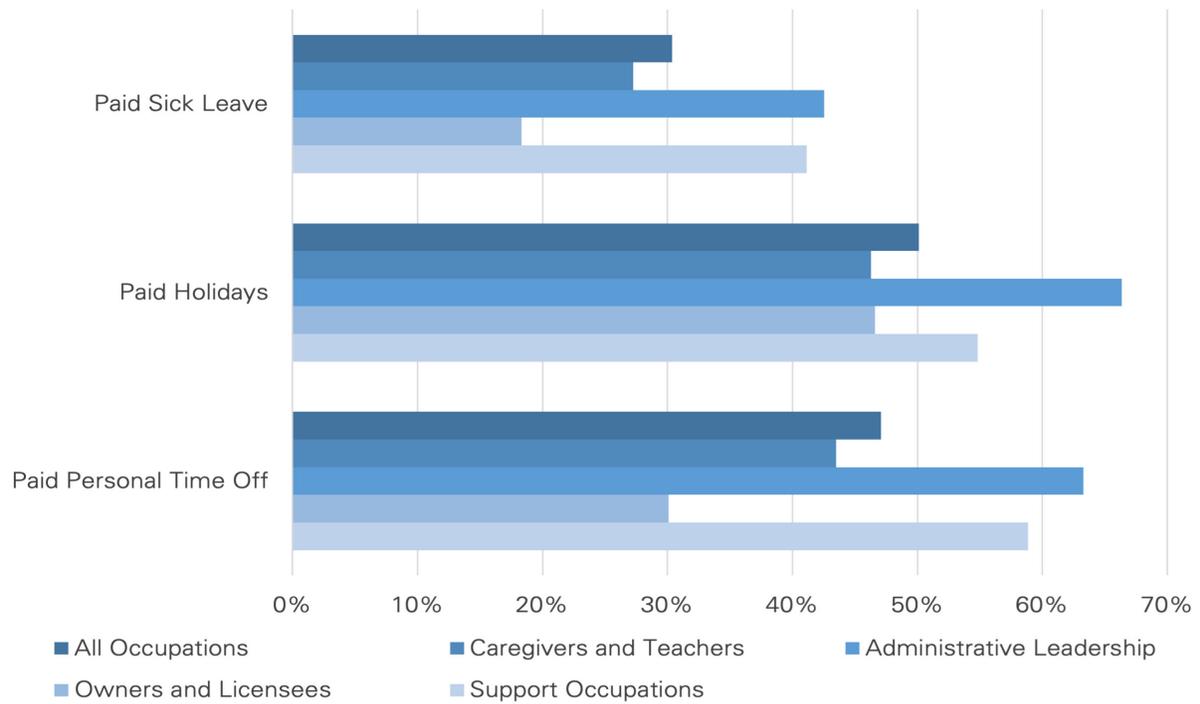
Figure 3.15: In-kind and Other Benefits Available to the Child Care Workforce for All Occupations and by Occupation Group
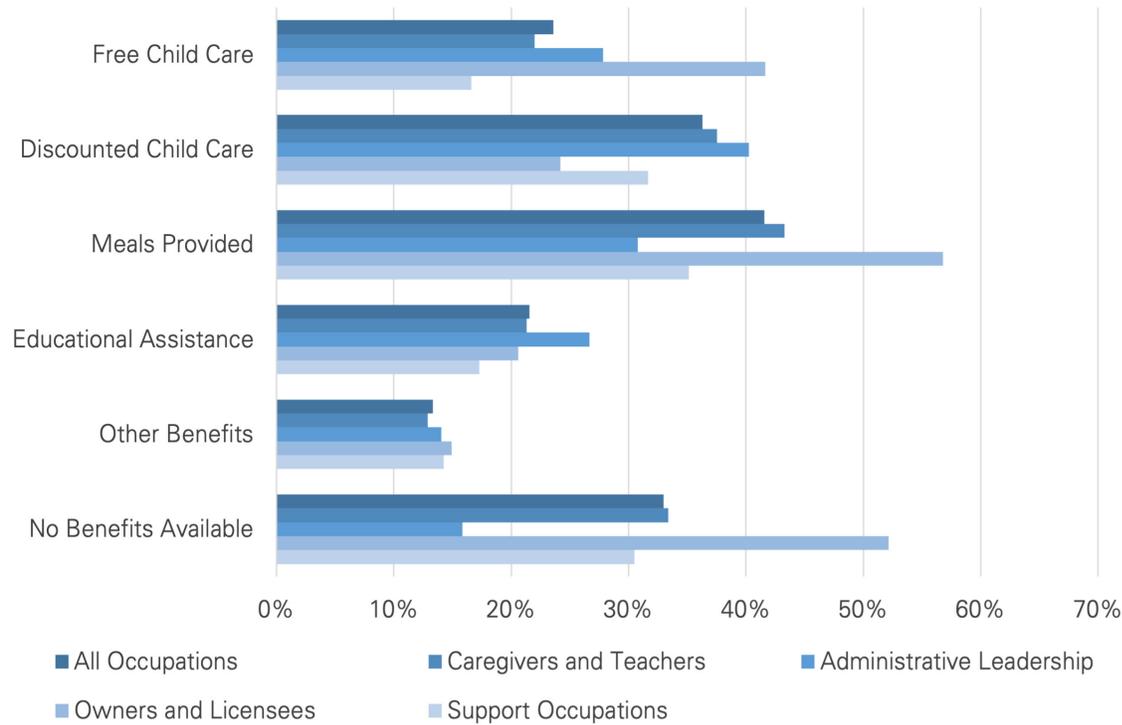
The data presented in this section summarizes the main findings from the Workforce Bonus survey and offers a detailed examination of the workforce characteristics and working conditions of occupations in the child care and early education fields. This work represents an initial look into the experiences of workers in these essential roles and provides important information for understanding the child care labor market. Workers, employers, and policymakers focused on the critical issues of attracting and retaining the child care workforce can employ the findings here to identify opportunities to improve the security of child care workers relative to similar workers in other jobs. Despite the breadth of summary statistics available through this analysis, they are only a small portion of the potential information available through the Workforce Bonus survey data. The following sections of this report build from the foundation of summary data to evaluate more extensive and more complicated aspects of working in child care.

Section 4: What Motivates Child Care and Early Education Workers – In Their Own Words

The survey results presented in the previous section of this report outline the characteristics and working conditions of child care workers, with a focus on the quantifiable elements of the labor market. In this section we turn to the qualitative experiences of work that often go unexamined.

The Workforce Bonus survey included the following question:

We would like to better understand the current workforce and encourage others to join the career field. What is your main reason or motivator for working in the youth or early care and education field?

Responses were free form but limited to 300 characters. The question primes respondents to think about their own motivation and to consider what motivations would draw new workers to the field. The free-form structure of the question means that responses were not limited by the assumptions or omissions of the survey creators, yet a large number of responses coalesced around a few dominant themes. The word limit and prompt focus responses around primary motivations, though many responses managed to include several reasons for working in the field. Analysis in the following sections centers on the commonalities among responses, which highlight a workforce that is motivated by the well-being of the child and whose attitudes toward work are framed by the role of child care in society.

Most survey respondents provided an answer to the free-form question about their main reason or motivation for working in child care. A total of 7,439 responses to the free-form motivation question are included in the survey data, representing 73 percent of submitted surveys. We use two qualitative approaches to summarize these responses. The first approach is the word cloud (Section 4.1 and Figure 4.1). The second approach is topical analysis using themes developed from the data to categorize responses and draw conclusions about the sample (Section 4.2 and Figures 4.2 and 4.3). Please see Appendix B for more detail about the methods used.

Section 4.1 Word Cloud

The word cloud in Figure 4.1 illustrates the most frequently used words in survey respondents' descriptions of their main motivation for working in the youth or early care and education field. In the figure, font sizes increase in accordance with the frequency of word appearance so that the most common words across surveys are presented in the largest type. This form of data visualization provides a crucial first step in quantifying and evaluating free-form responses by displaying where shared focus may exist among a variety of statements.

Figure 4.1: What is your main reason or motivator for working in the youth or early care and education field? (Word Cloud)

At the center of the word cloud is the most-used word in worker responses: child. Survey respondents used the word child almost twice as often as the second-most-used word, love. Note that this usage does not simply place the child at the center of the working day as the object of care work services, but rather as central to the motivations for entering and remaining in the child care labor force. Child care workers are motivated by the children in their care.

Following the usage of child, the most-used words include (in order): love, help, learn, grow, make, good, life, see, teach, enjoy, and care, all of which appeared in worker responses more than 1,000 times. The prevalence of these words implies that additional shared motivations may include strong positive feelings (love, enjoy) and a dedication to service (help, learn, grow, teach, care).

Word clouds necessarily decontextualize responses to discover the word or root-word commonalities across answers. As a result of this decontextualization, on their own word clouds are insufficient to draw definitive conclusions about the meaning and interpretation of data.[7] But the word cloud in Figure 4.1 does provide guidance toward the fuller and more contextualized analysis of child care worker motivations in the following section. By quantifying and visualizing the importance of several motivating factors among survey respondents, Figure 4.1 points to three potential interpretive themes that are rooted in the data and provides a visual sense of the importance of these themes in workers' own words.

Section 4.2 Topic Analysis

Topic analysis recontextualizes frequently used words and phrases to provide deeper insights into free-form text responses. This analysis builds from the word cloud to examine the full data for potential alignment around common themes. Word frequency and the word cloud visualization indicate three primary motivators, including the centrality of the child, positive feelings of love and enjoyment, and professional commitment to service tasks such as teaching. For a comprehensive understanding of these terms in context, we returned to the data. We performed a detailed review of sample data to understand how survey respondents interpreted the free-form question and to assimilate key terms and phrases in the context of their responses. Close reading of the data sample produced a list of potential themes and key words or phrases that would signify affiliation with a theme. Analysis of the survey data revealed that three broad

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7   F. Heimerl, S. Lohmann, S. Lange and T. Ertl, "Word Cloud Explorer: Text Analytics Based on Word Clouds," 2014 47th Hawaii International Conference on System Sciences, Waikoloa, HI, USA, 2014, pp. 1833-1842, doi: 10.1109/HICSS.2014.231.

themes capture 94 percent of responses. These themes are explained and assessed below. Additional details about the use of key words and phrases and example responses within each theme can be found in Appendix B.

Figure 4.2: We would like to better understand the current workforce and en- courage others to join the career field. What is your main reason or motivator for working in the youth or early care and education field? (Broad Themes)
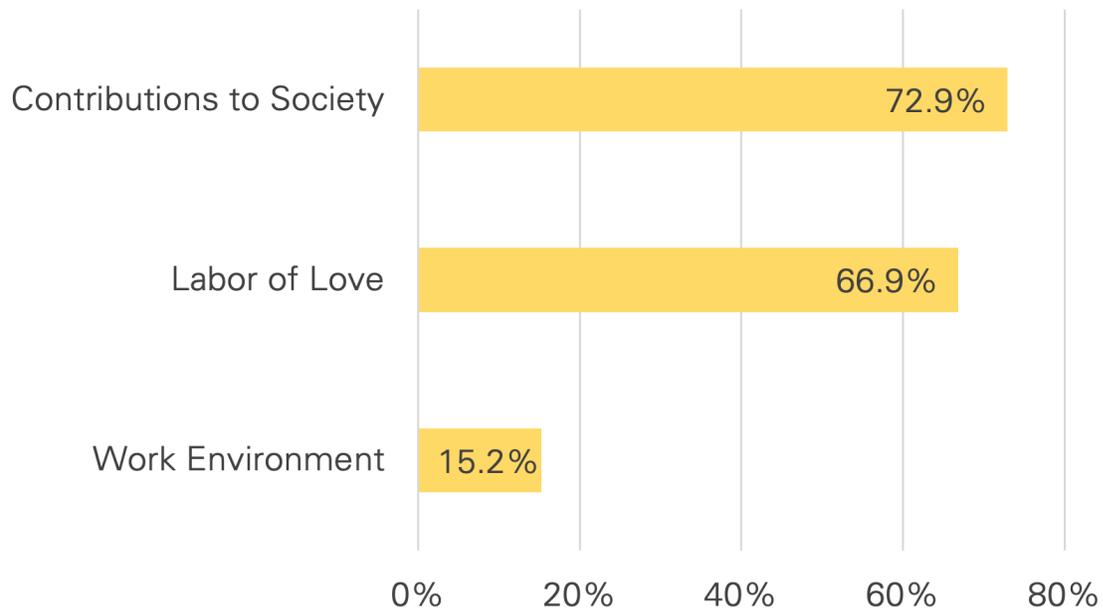
Figure 4.3: We would like to better understand the current workforce and encourage others to join the career field. What is your main reason or motivator for working in the youth or early care and education field? (Sub-themes)

CONTRIBUTIONS TO SOCIETY
- Contributions to Child Development — 56.8%
- Sense of Purpose — 20.7%
- Contributions to Community — 14.5%
- Contributions to the Future — 12.6%

LABOR OF LOVE
- Inherent Rewards — 62.2%
- Calling — 11.8%

WORK ENVIRONMENT
- Accommodates Time With Own Family — 12.1%
- Work Schedule — 2.3%
- Self Employment — 1.8%
- Personnel/Coworkers — 1.5%
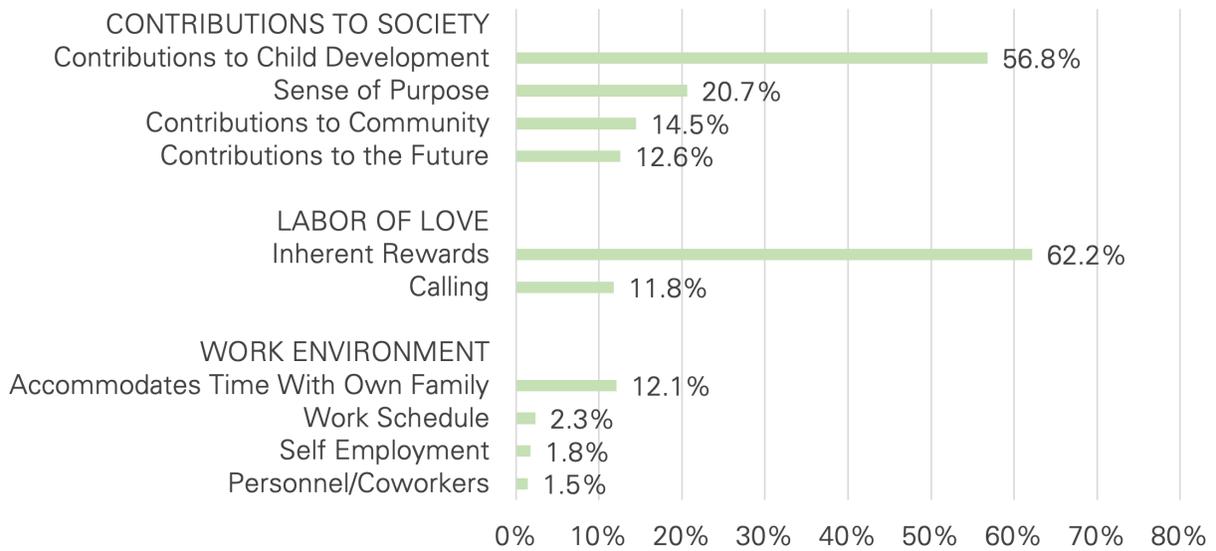
Theme 1: Child Care Provides Opportunities to Make Contributions to Society, including contributions to child development, supporting families and communities, and making a difference for the future.

Across a diversity of responses among the child care labor force, the most common theme defining workers' main reason or motivator for working in the youth or early care and education field was the role of child care labor in society, including its role in child development, supporting working families and their communities, and making a difference for the future. This broad theme is summarized in the title Contributions to Society and 73 percent of responses align with the theme (Figure 4.2). Contributions to Society indicates that child care workers are motivated by the opportunity to make a positive impact on the world at a variety of levels, including the direct effects of conscientious one-on-one interactions with children and families, and the more abstract effects of providing resources the shape society at large and over lifetimes.

Within the Contributions to Society broad theme, we evaluated the role of four distinct categories: contributions to child development, contributions to communities, contributions to the future, and a sense of purpose. The appearance of these sub-themes as a share of the total sample is presented in Figure 4.3. More than half (57 percent) of responses indicated

that contributing to child development is a first-order motivation for working in the field. These responses include answers like the following:

I feel that we have a vitally important job to help children to be prepared (socially, emotionally, physically, educationally, etc.) to create successful relationships and lives. We do that each day by helping them to develop the skills and strengths needed to thrive (not just survive) in life.

In addition to child development, other expressions of socially oriented motivation were among the most common responses in the data. As shown in Figure 4.3, 21 percent of respondents identified a sense of purpose as a primary motivator for working in the youth or early care and education field, 14 percent identified contributions to their community as a primary motivator, and 13 percent identified contributing to the future as a primary motivator. Examples of responses within each of these subthemes are included in Appendix B.

Theme 2: Child Care is a Labor of Love; the work involves inherent positive feelings of love and joy and is seen as a calling.

The second-most common broad theme among responses in the survey were descriptions of inherent non-monetary rewards associated with child care labor, like feelings of love and joy, and the sense that working in the youth and early care field is a calling or conviction. This theme is summarized in the title Labor of Love. As shown in Figure 4.2, 67 percent of responses to the survey question align with this theme. Responses categorized in this theme suggest that performing child care labor involves positive feedback that keeps workers motivated to continue in the field.

We identified two distinct sub-themes within Labor of Love: inherent benefits and child care as a calling. The most prevalent of these sub-themes was the inherent benefits of child care labor, which appeared in 62 percent of responses. Inherent benefits include the love, joy, fun, challenge, and fulfillment involved in working with children day-to-day. The positive association of these emotions with child care work is an important motivation for child care workers. For example, the following response is categorized in the sub-theme of inherent benefits:

The work is incredibly rewarding and leads to deep self-reflection and personal growth. Children invite us to see the best and worst of ourselves and encourage us to grow and change in a way no other job does. Working with children brings hope and love to my life and provides incredible meaning.

In addition to the inherent benefits experienced through work, many child care workers see

their job as a calling or vocation in which they have invested their lives. Approximately 12 percent of responses explained their motivation as a calling. These workers are skilled and passionate professionals who are dedicated to their craft.

Theme 3: Child Care Provides an Appealing Work Environment, including a desirable schedule, the ability work from home and with one's own family, opportunities for self-employment, and positive experiences with coworkers.

The last broad theme identified within the work force responses was the motivation provided by an accommodating working environment. This theme encapsulates several aspects of child care work, including the opportunity to work a schedule that meets the needs of workers and their families, opportunities for working from home, the ability to include one's own family in the working day both at home-based care and at centers where workers' children are accommodated, opportunities for self-employment, and positive reinforcement from coworkers. This theme is summarized in the title Working Environment and responses categorized in this theme account for 15 percent of the data (Figure 4.2). Workers who mentioned the working environment in their responses are motivated to work in youth and early education by aspects of child care labor that structure the working day around worker preferences and priorities.

Responses that included mention of the working environment were less frequent than the other two broad themes. However, the most common sub-theme under working environment is an important motivating factor for many workers: the ability to accommodate time with family during the working day was mentioned in 12 percent of responses. This motivation was reported by spouses who work together from home, parents who care for their own children alongside children from the community, and working parents who are able to find child care placement for their young children at the care facility where they are employed. Many of the workers in this category reported entering and remaining in child care work because it accommodates time with family. For example, the following is a typical response categorized as accommodating time with family:

I work as a child care provider because it is a way I can monetarily support my family while at the same time taking care of my own children.

The additional sub-themes encapsulated by Working Environment appeared significantly less frequently than the other responses we tracked. Only 5 percent of responses mentioned any of the other working environment sub-themes, including schedules (2.3 percent of responses),

opportunities for self-employment (1.8 percent), and positive experiences with coworkers (1.5 percent).

Two additional themes noted during our initial review of the sample data were tracked, but ultimately did not appear in a significant portion of responses. The first of these themes was money. We identified responses that mentioned money, pay, income, or wages within the survey data. However, while almost 3 percent of responses mentioned money, only about half of them mentioned money as a positive motivator. Among the other responses in this category were a large portion of respondents who indicate that they work in child care despite the money because their other motivating factors outweigh the disincentive of low pay. Some of the responses in this category specifically orient their answer toward the prompt by stating that encouraging others to work in the field will require paying them higher wages. The final theme we tracked was the motivation to work in child care because of a lack of available care options for the workers' own families. The motivation appeared in less than 1 percent of the data.

The thoughtful responses to the survey prompt reveal a work force with deeply considered motivations for working in child care and early education. The coalescence of responses around broad themes shows that a sense of the importance of child care in social organization, the love and commitment to child care work, and the ability to accommodate one's own family are important sources of motivation for workers in the field. Yet these aspects of child care labor are simultaneously rewards and responsibilities for child care workers. The benefits of a workforce motivated by contributing to society spillover to all of society, while the gratification and accommodation that motivates this work may be seen as a tradeoff with other forms of compensation for the work performed and enabling low-wage, low-benefits employment. An effort to understand the current workforce and encourage new entrants in youth and early care careers is extensively informed by the responses to this question, both in the motivations that are cited and those that are not.

Section 5: Child Care Workforce Earnings – relating labor supply and demand factors to the determination of wages in Utah's child care labor market

In this section we use regression analysis to evaluate the relationship between child care workers' wages and the principal labor supply and demand factors available in the Workforce Bonus survey data. A straightforward Ordinary Least Squares (OLS) regression expresses the strength of association between an individual worker's wage earned and her demographic characteristics such as gender, race, and ethnicity, accumulated human capital such as education and experience, and the region and type of provider where she is employed. The results provide evidence that some skilled workers can command higher wages in the child care labor market, with college education, CDA credentials, and experience in the labor market all positively related to worker wages in general and for some occupations. At the same time, demand-side factors such as region of employment and provider type have a sizable impact on wages that may constrain the potential returns to child care labor for workers in some markets.

5.1 Motivation

Summary results from the Workforce Bonus survey data presented in Section 3 showed that child care workers earn low wages and few benefits, despite overall education levels on par with Utah's total labor force. The summary also showed that while the majority of the child care workforce holds few years of experience, some occupations, such as administrative leadership and owners and licensees, exhibit large shares of highly experienced workers. Education and experience represent the human capital accumulation of the child care labor force: general or child care-specific knowledge and skills that enable higher productivity and better outcomes in the workplace. Higher levels of human capital accumulation are generally associated with higher earnings.[8] But the overall low wages in the child care and early education field indicate limits to these returns. There are several possible explanations for the relationships observed in the summary statistics. One possibility is that low entry requirements attract a large supply

8   David J. Deming (2022). "Four Facts About Human Capital." Journal of Economic Perspectives vol. 36, no. 3, Summer 2022 (pp. 75-102). Available at https://www.aeaweb.org/articles?id=10.1257/jep.36.3.75.

of workers with lower levels of human capital, but higher-skilled workers can access a career pathway that promotes the most educated and experienced workers to positions with higher wages. Another possibility is that child care employers generally place a low value on human capital, and higher-skilled workers leave the field for careers in markets where wages are higher. In the first scenario, for example, assistant caregivers and teachers may have low levels of experience relative to the workforce because the most experienced among them are promoted to lead teaching positions. In the second scenario, experienced assistant caregivers and teachers leave the child care workforce after a few years of employment because of the limited opportunities to earn a living wage in the field.

Research shows that human capital attainment matters for child care services. According to the National Institute of Child Health and Human Development, both the education level of caregivers and that of child care administrators have a positive relationship with developmental outcomes.[9] In Utah, the importance of this relationship is reflected in institutional supports and professional development incentives through the Office of Child Care. The state's Child Care Quality System (CCQS) awards points for higher levels of educational attainment or other credentials among center directors and caregiving staff and for primary caregivers at family licensed facilities. The Office of Child Care also provides financial support for attaining and maintaining industry credentials such as the CDA and the National Administrator's Credential (NAC), as well as tuition support for higher education courses in the early childhood field. With the value of human capital attainment for child care outcomes widely recognized by experts and professionals and skilled labor still relatively scarce, we expect a positive return to human capital investments for workers in the child care and early education labor market.

5.2 Model

Regression analysis makes it possible to determine whether a relationship exists between human capital and wages for child care workers, and to assess the direction and strength of this relationship. By incorporating other labor supply and demand characteristics in the regression we can both isolate the effects of human capital from the effects of other factors and appraise the relationships of other worker and employer characteristics with the wage. We use the Workforce Bonus survey data to develop this analysis, and our auxiliary variables are limited

9   National Institute of Child Health and Human Development (2006). The NICHD Study of Early Child Care and Youth Development: Findings for Children Up to Age 4   Years. United States Department of Health, National Institutes of Health. Available at https://www.nichd.nih.gov/sites/default/files/publications/pubs/documents/seccyd_06.pdf.

in availability and format by their inclusion in the data set. Most of the variables in the data are categorical rather than continuous, and base values for the analysis are primarily determined by highest share representation. The dependent and independent variables included in the analysis are described below.

• Hourly wage is the dependent variable in the regression. This variable is included in the form of the natural log ln(wage). The log form addresses the skewness of the wage distribution shown in Figure 3.10 and represents a multiplicative relationship between regressors and the wage.

• Educational Attainment is a categorical variable indicating the highest level of formal education achieved. The base level of educational attainment is a high school diploma or GED.

• CDA Credential is a dummy variable equal to one if the individual as a current CDA or equivalent credential.

• Experience is a categorical variable representing years of experience in the child care or early education field. The base level of experience is 2-4 years.

• Gender is a categorical variable with base category female.

• Race is a categorical variable with base category White.

• Ethnicity is a dummy variable equal to one if the individual reports Hispanic or Latino ethnicity.

• Part-time Work is a dummy variable equal to one if the individual works less than 30 hours per week.

• Metropolitan Area is a categorical variable indicating the metropolitan or nonmetropolitan statistical area where a worker is employed. The base category for this variable is the Salt Lake City Metro Area.

• Provider License Type is a categorical variable indicating the type of facility where a worker is employed. The base category is center licensed care.

• Occupation is a categorical variable indicating the occupation title reported by the worker. The base category is assistant caregiver or teacher.

The first three independent variables, educational attainment, CDA credential, and experience, can be interpreted as measures of human capital attainment. These variables should have increasingly positive relationships with the log wage at higher levels of attainment. The next

three variables, gender, race, and ethnicity, describe demographic attributes of the worker. In a market with no discrimination and no productivity-related benefits of racial and gender identities, these variables should have no relationship to the wage. Part-time work is expected to have a negative association with wages since part-time workers are often paid less per hour than full-time labor. Metropolitan area and provider license type are characteristics of employers and thus representative of labor demand in different markets for child care workers across the state. Metropolitan and nonmetropolitan statistical areas differ in terms of prices and wages and the coefficients on these variables will represent local labor market conditions. Provider license types represent different care environments which may require distinct skills or face different wage constraints derived from different market prices for different types of care.

The regression model explicitly posits that the log wage is a function of human capital attributes, worker demographic auxiliary variables, full- or part-time work status, labor demand factors such as location and facility type, and occupation. This model differs from a conventional Mincer earnings function only in the non-quadratic form of the experience variable because a categorical variable cannot be squared. Running the model on the full sample provides estimates of the relationships between each independent variable and the log wage for the child care workforce. However, notable differences in education and experience within and between occupational categories elicit further analysis. After estimating the model on the full workforce, separate regressions are performed by occupational category in order to understand how relationships between earnings and labor supply and demand factors differ by the type of work performed.

5.3 Results

The regression model employed in this analysis shows strong statistical relationships between the hourly wage and explanatory variables related to human capital and labor demand factors among the workers in our sample. The exponentiated coefficients for each model are included in Table 5.1 at the end of this section, and full regression results for each model including robust standard errors are included in Appendix C.[10] In this section we interpret these results to assess how wages are associated with labor supply and demand characteristics in Utah's

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10   Using the log-form of the dependent variable ln(wage), the exponentiated regression coefficients are interpreted as one plus the percent change in the wage associated with a unit change in the independent variable. For example, in Table 5.1, the coefficient of associate degree, 1.0466, signifies that possessing an associate degree increases wages by [(1.0466 - 1) * 100] or 4.66 percent. The coefficient of part-time employment, 0.9139, indicates that working part-time decreases wages by [(0.9139 - 1) * 100] or 8.61 percent.

child care workforce.

Human Capital Attainment

The results in Table 5.1 reveal a positive relationship between the wages earned by Utah's child care workers and human capital as measured by education, CDA or equivalent credentials, and experience. For the full child care workforce, educational attainment, a CDA, and experience in the child care or early education labor force of 5 years or more all show a significant positive relationship at the 99.9 percent confidence level. These results imply that human capital attainment is valued and rewarded in the child care labor market in general.

Among all occupations, the returns to education rise with higher levels of attainment, but all increments of education are rewarded with an associated increase in the wage. A high school diploma or GED is associated with a 6.5 percent increase in the wage over a non-graduate. Compared to the high school graduate, an associate degree is accompanied by a 4.7 percent increase in the wage, a bachelor's degree is associated with a 12 percent increase in the wage, and a graduate degree is associated with a 41 percent increase in the wage.

A CDA or equivalent credential has a significant and positive relationship to wages for all occupations in the child care workforce, with an effect approximately as strong as attaining an associate degree.

Experience in the child care and early education fields also reveals a significant positive association with wages for the full child care workforce sample. For all workers in the child care labor force, 5 to 9 years of experience is associated with a 4 percent increase in the wage above the base level and wages rise further with greater levels of experience, culminating in an increase of 13.9 percent over the base value for 20 years of experience or more in the child care field.

The results show that human capital attainment can be a strong predictor of wages in the market, but further analysis complicates this picture by exposing variation in the strength or presence of these relationships between occupations. Importantly, none of the measured elements of human capital in the model are significantly correlated to the hourly earnings of owners and licensees, making this group notably distinct from the rest of the child care labor force. Caregiving and teaching occupations show the strongest relationships between human capital and the log wage with significant findings within every measure. Administrative leadership positions experience higher wages associated with education at the level of bachelor's degree

or higher, and experience of 10 years or more. But despite being the occupation group with the highest share of CDA or equivalent credentials, administrative leadership occupations show no significant relationship between the CDA and wages earned. While the CDA is a way to improve the quality of care for children and families, it is not a path toward higher wages for workers outside of caregiving roles.

Demographic Characteristics and Part-time Work

The demographic characteristics in the model include gender, race, and ethnicity. Among these characteristics only gender shows a significant relationship to the wage, across all occupations except owners and licensees. All else equal, male gender is associated with a 6.8 percent wage increase over female child care workers. This result suggests a payoff to male gender in child care work, after controlling for other worker and workplace characteristics. The effect is larger than attaining an associate degree, a CDA, or gaining 5-9 years of experience in the child care labor force. However, the result in this model is only a first approximation. Further analysis through regression decomposition is necessary to evaluate the potential role of gender discrimination in the wage differential observed.

Part-time work exhibits the expected relationship to wages, diminishing the wage relative to full-time employment. The coefficient is significant at the 99.9 percent threshold and potentially larger than other important worker characteristics. Part-time work is associated with an 8.6 percent reduction in the wage for child care workers in the full sample.

Labor Demand Factors

Labor demand factors such as the location of employment and the provider license type show a significant relationship to the log wage and some of the largest coefficient effects in the model. Worker wages are strongly related to the metropolitan or nonmetropolitan areas in which they work, and to the type of facilities where they are employed.

The Salt Lake City Metropolitan Statistical Area is the base region in the model, and the highest-paying region in the data. All other metro and non-metro areas exhibit coefficients that indicate a lower wage in the region, with statistical significance at the 99 percent threshold or higher for all but the Eastern Nonmetropolitan Region. The Central Nonmetropolitan Region, including Beaver, Garfield, Iron, Kane, Millard, Piute, Sanpete, Sevier, and Wayne Counties, shows the lowest wage in the sample with a coefficient indicating an 11.4 percent wage reduction

associated with work in the area compared to Salt Lake City. Employment in Logan and St. George are associated with 4.4 and 4.2 percent wage reductions, respectively, employment in Ogden-Clearfield is associated with a 3.2 percent reduction in the wage, and employment in Provo-Orem is associated with 2.2 percent lower wages.

Finally, the regression results for provider license type indicate some of the largest effects in the model. The license type categories include all providers that employed workers who were eligible for the Workforce Bonus Program, as well as those with eligible owner/licensees. Significant results at the 95 percent level or better were obtained for 7 out of 9 of the provider types in the data. Among these, DWS approved, license exempt centers are associated with the highest wages, with a coefficient indicating a wage increase of 20 percent for employment at a facility of this type compared to a licensed center. Other provider types with positive wage relationships include school aged programs (associated with a 12.3 percent wage increase) and commercial preschools (associated with a 4 percent wage increase). All other provider types in the data with significant effects were associated with wage reductions compared to center licensed facilities. Friend, Family, and Neighbor providers operating out of the provider's home are associated with an outsized effect of 64 percent wage reductions, resulting from the combined effects of 40 percent wage reductions among caregiving and teaching occupations and 76 percent reductions among owners and licensees. Residential certificate providers are associated with 45 percent reductions in the wage.

5.4 Discussion

Previous research on childcare workers' wages indicates that both education and experience have minimal impact on earnings.[11] This literature implies that unless individuals plan to switch to different occupations, there is limited financial motivation to pursue further education.[12] In contrast, the regressions described in this section and reported in Table 5.1 and Appendix C present a different narrative. This research shows that widely recognized human capital factors exhibit varying relationships with wages across different occupations. In caregiving and teaching occupations, human capital variables display a strong positive relationship with wages. However, the impact of education, credentials, and experience are not as prominent in other occupations, particularly among owners and licensees.

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11   Blau, D. M. (2001). Child care problem: An economic analysis. Russell Sage Foundation.

12   Haspel, E. (2019). Crawling Behind: America's Childcare Crisis and How to Fix It. Black Rose Writing

Another notable observation arising from the regression results is the significant influence of region and provider types on wages. These demand-side factors have the potential to overshadow the wage advantages associated with education and experience. The persistently low wages offered in home-based care settings and rural locations pose a challenge for attracting highly educated and experienced workers to these sites, thereby exacerbating the existing distortions within the field. When we consider the findings from the regression analysis together with the fact that friend, family, and neighbor care, along with other home-based care options, are the most utilized forms of childcare across the United States, it becomes evident that the current wage disparities and limited availability of licensed care present a significant hurdle to attracting and retaining skilled child care labor.[13]

Lastly, the regression results shed light on the strong effect of being a male in the highly feminized childcare industry and emphasize the need for further investigation and analysis to better understand the role of gender discrimination and its potential implications for wage differentials in child care work.

Table 5.1: Exponentiated Regression Coefficients for Modeling the Child Care ln(wage)

Variable	Exponentiated Regression Coefficients for 5 Samples				
	All Occupations	Caregiving and teaching	Administrative Leadership	Owners and licensees	Support Occupations
Educational Attainment					
Some high school	0.9349***	0.9561***	0.6721	0.7905	0.8663***
Some college	1.0279***	1.0372***	0.9986	1.0562	1.0022
Associate degree	1.0466***	1.0377***	1.0295	1.1261	1.0510
Bachelor's degree	1.1236***	1.1106***	1.1250***	1.0867	1.1570***
Graduate degree	1.4106***	1.3231***	1.3721***	1.1612	1.6631***
CDA Credential					
Has CDA	1.0423***	1.0612***	1.0121	1.0578	0.9845
Experience					
0-1 year	0.9842*	0.9921	0.9896	0.8674	0.9802
5-9 years	1.0402***	1.0465***	1.0253	0.8497	1.0615*
10-14 years	1.0824***	1.0757***	1.1091**	0.9310	1.0806

13   Park, M., & Pena, J. F. (2021). The Invisible Work of Family, Friend, and Neighbor Caregivers and Its Importance for Immigrant and Dual Language Learner Families.

15-19 years	1.1008***	1.1082***	1.1558***	0.8187	1.1640***
20+ years	1.1394***	1.1413***	1.2221***	0.8844	1.1752***
Gender					
Male	1.0679***	1.0339*	1.1176**	1.0202	1.0683*
Non-binary/Other	0.9592	0.9360	1.0783	1.4716***	0.9487
Race					
Asian	0.9827	0.9709	0.9306	1.1455	1.1764
Black or African American	0.9870	0.9744	0.9135*	1.2341	0.9627
Native American and Alaska Native	0.9941	1.0190	0.8710**	1.6684	0.9823
Pacific Islander and Hawaiian Native	0.9680	0.9521*	1.0168		1.1101*
Other	0.9877	1.0095	1.0644	0.7798*	0.9774
Ethnicity					
Hispanic or Latino	0.9976	0.9918	0.9728	1.1076	1.0136
Part-time Work					
Part Time	0.9139***	0.9176***	0.8917***	0.9949	0.8589***
Metropolitan Area					
Logan	0.9562**	0.9729	1.0026	0.8889	0.8858*
Ogden-Clearfield	0.9680***	0.9775**	0.9547	0.9855	0.9435*
Provo-Orem	0.9775**	0.9953	0.9451	0.8248*	1.0446
St. George	0.9582**	0.9859	0.9106*	0.8534	0.9291*
Eastern Nonmetro	0.9936	1.0020	0.9713	0.9460	1.0065
Central Nonmetro	0.8861***	0.8785***	0.8334***	0.8778	0.9849
Provider License Type					
Commercial Pres.	1.0397*	1.0425**	0.9491	1.1952	0.9457
Exempt Center	1.2002***	1.2087***	1.1777***		1.1510***
School Age Prog.	1.1231***	1.1579***	1.1398***	2.1967***	1.0706**
FFN in Child's Home	0.7006	0.3672***		0.6444	
FFN in Provider's Home	0.3601***	0.6049***		0.2586***	
Hourly Center	0.8615***	0.8840***	0.8013***	1.0784	0.8828
Licensed Family	0.9712**	1.0287**	0.8838*	0.7598***	0.9268*
Out of School Time	1.0298	0.9595	1.1529	1.3515**	1.0287
Residential Certif.	0.5472***	0.8133	0.2163***	0.4318***	0.8766
Occupation				(omitted)	

Assistant Director	1.1336***		(base)		
Cook	1.0452*				(base)
Custodian or Janitor	1.1013*				1.1100*
Director	1.3019***		1.1372***		
Director Designee	1.1283***		1.0024		
Driver	1.1082***				1.0800*
Lead Caregiver or Teach	1.0537***	1.0676***			
Administrative Assistant	1.1236***				1.0747**
Coach or Coordinator	1.1828***		1.0293		
Other Support Staff	1.1647***				1.1164***
Owner or Licensee	1.1086***				
Subdirector	0.9848		0.9235*		
Substitute/Floater	0.9993	1.0032			
Constant	14.2231***	13.7843***	16.7229***	23.0516***	15.2965***
N	7434	5332	775	498	829
R-squared	0.3542	0.3270	0.4226	0.2884	0.4736
Adjusted R-squared	0.3500	0.3223	0.3936	0.2378	0.4490
Legend: * p<0.05; ** p<0.01; *** p<0.001					

APPENDIX A: Worker Characteristics and Working Conditions in Utah's Child Care Labor Force by Individual Occupations

Table A.1: Child Care Worker Reported Gender for Individual Occupations

Gender by Occupation						
	Female	Male	Non-binary	Other	Declined	n
All Occupations	88.7%	9.9%	0.6%	0.1%	0.7%	10,006
Caregivers and Teachers						
Lead Caregiver or Teacher	92.9%	5.4%	0.6%	0.1%	1.0%	3,535
Assistant Caregiver or Teacher	86.8%	11.8%	0.8%	0.1%	0.5%	2,618
Substitute or Floater Caregiver or Teacher	86.4%	12.8%	0.2%	0.2%	0.4%	507
Administrative Leadership						
Director	90.8%	8.1%	0.2%	0.2%	0.7%	546
Assistant Director	92.5%	6.7%	0.4%	0.4%		254
Director Designee	92.4%	5.5%	1.6%		0.6%	183
Coach or Coordinator	90.7%	8.3%	0.9%			108
Owners and Licensees	90.3%	8.9%	0.1%		0.6%	1,118
Support Occupations						
Administrative Assistant or Office Manager	86.0%	12.9%	0.6%		0.6%	178
Cook	89.0%	9.3%	1.2%		0.6%	172
Custodian or Janitor	39.7%	60.3%	0.0%			78
Driver	42.3%	56.4%	1.3%			78
Other Onsite Supporting Staff	79.7%	19.3%	0.6%	0.2%	0.2%	626

Table A.2: Child Care Worker Race and Ethnicity for All Detailed Occupations

	Race by Occupation							
	Asian	Black or African American	Native American and Alaska Native	Pacific Islander and Native Hawaiian	White	Other	Declined	n
All Occupations	0.8%	3.0%	1.2%	0.8%	83.4%	8.5%	2.4%	10,007
Caregivers and Teachers								
Lead Caregiver or Teacher	0.6%	3.2%	1.4%	1.2%	82.6%	8.6%	2.4%	3,536
Assistant Caregiver or Teacher	0.9%	2.9%	1.0%	0.6%	83.9%	8.9%	1.8%	2,618
Substitute or Floater Caregiver or Teacher	1.4%	1.4%	0.2%	0.8%	84.8%	9.1%	2.4%	507
Administrative Leadership								
Director	0.7%	2.4%	1.5%		86.1%	6.6%	2.8%	546
Assistant Director	0.8%	3.2%	1.2%	0.4%	85.4%	7.1%	2.0%	254
Director Designee	1.1%	1.1%	2.2%	2.2%	86.3%	4.9%	2.2%	183
Coach or Coordinator	0.9%	1.9%	2.8%		75.9%	13.9%	4.6%	108
Owners and Licensees	1.2%	4.3%	0.4%	0.4%	82.6%	8.1%	3.1%	1,118
Support Occupations								
Administrative Assistant or Office Manager		2.3%	1.7%	0.6%	83.2%	10.1%	2.3%	178
Cook	1.2%	1.7%	2.9%		79.1%	12.8%	2.3%	172
Custodian or Janitor		3.9%		2.6%	80.8%	3.9%	9.0%	78
Driver		9.0%	1.3%	1.3%	78.2%	9.0%	1.3%	78
Other Onsite Supporting Staff	0.6%	1.9%	1.3%	0.8%	85.8%	8.2%	1.4%	626

Table A.3: Child Care Worker Race and Ethnicity for Individual Occupations

Ethnicity by Occupation				
	Hispanic or Latino	Not Hispanic or Latino	Declined	n
All Occupations	20.4%	76.1%	3.5%	10,005
Caregivers and Teachers				
Lead Caregiver or Teacher	21.3%	75.3%	3.4%	3,535
Assistant Caregiver or Teacher	20.2%	76.2%	3.6%	2,617
Substitute or Floater Caregiver or Teacher	17.0%	78.7%	4.3%	507
Administrative Leadership				
Director	17.8%	78.9%	3.3%	546
Assistant Director	15.0%	82.3%	2.8%	254
Director Designee	18.6%	79.2%	2.2%	183
Coach or Coordinator	30.6%	63.9%	5.6%	108
Owners and Licensees	19.3%	77.4%	3.3%	1,118
Support Occupations				
Administrative Assistant or Office Manager	25.8%	71.4%	2.8%	178
Cook	31.4%	65.7%	2.9%	172
Custodian or Janitor	12.8%	75.6%	11.5%	78
Driver	26.9%	69.2%	3.9%	78
Other Onsite Supporting Staff	19.5%	77.8%	2.7%	626

Table A.4: Child Care Worker Age for Individual Occupations

Age by Occupation					
	16-17	18-24	25-29	30-39	40-49
All Occupations	3.7%	29.0%	13.2%	19.3%	16.6%
Caregivers and Teachers					
Lead Caregiver or Teacher	1.9%	32.7%	15.7%	20.1%	15.1%
Assistant Caregiver or Teacher	9.2%	41.4%	10.5%	14.0%	11.4%
Substitute or Floater Caregiver or Teacher	8.1%	42.7%	13.4%	15.8%	8.5%
Administrative Leadership					
Director	0.0%	7.9%	12.3%	27.1%	29.1%
Assistant Director	0.0%	16.1%	17.7%	34.7%	19.3%
Director Designee	0.0%	16.9%	23.5%	32.2%	15.3%
Coach or Coordinator	0.0%	22.2%	17.6%	17.6%	21.3%
Owners and Licensees	0.0%	4.6%	7.9%	21.5%	27.5%
Support Occupations					
Administrative Assistant or Office Manager	0.0%	23.6%	14.0%	21.4%	20.2%
Cook	0.6%	19.8%	14.0%	18.0%	18.0%
Custodian or Janitor	7.7%	24.4%	7.7%	14.1%	15.4%
Driver	0.0%	12.8%	15.4%	19.2%	18.0%
Other Onsite Supporting Staff	1.3%	23.6%	14.1%	18.9%	19.5%

Table A.4 (cont'd): Child Care Worker Age for Individual Occupations

Age by Occupation					
	50-59	60-69	70+	Declined	n
All Occupations	10.9%	5.4%	1.2%	0.9%	10,006
Caregivers and Teachers					
Lead Caregiver or Teacher	8.9%	4.2%	0.4%	1.0%	3,536
Assistant Caregiver or Teacher	7.3%	4.1%	1.5%	0.7%	2,618
Substitute or Floater Caregiver or Teacher	6.7%	2.6%	1.6%	0.6%	506
Administrative Leadership					
Director	16.9%	5.7%	0.4%	0.7%	546
Assistant Director	9.1%	1.6%	1.6%	0.0%	254
Director Designee	8.2%	2.7%	0.6%	0.6%	183
Coach or Coordinator	14.8%	6.5%	0.0%	0.0%	108
Owners and Licensees	23.1%	11.9%	2.9%	0.8%	1,118
Support Occupations					
Administrative Assistant or Office Manager	13.5%	6.2%	0.6%	0.6%	178
Cook	18.0%	9.3%	1.2%	1.2%	172
Custodian or Janitor	7.7%	9.0%	3.9%	10.3%	78
Driver	10.3%	18.0%	6.4%	0.0%	78
Other Onsite Supporting Staff	12.8%	7.5%	1.6%	0.8%	626

Table A.5: Years Worked in Youth or Early Care and Education for Individual Occupations

Years of Experience in Child Care and Early Education, by Occupation								
	0 to 1 year	2 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20+ years	Declined	n
All Occupations	26.8%	27.2%	18.6%	9.5%	5.9%	11.4%	0.6%	10,004
Caregivers and Teachers								
Lead Caregiver or Teacher	24.1%	30.3%	21.0%	9.6%	5.5%	8.6%	0.9%	3,536
Assistant Caregiver or Teacher	42.6%	32.4%	13.1%	5.1%	2.4%	3.9%	0.4%	2,618
Substitute or Floater Caregiver or Teacher	43.1%	28.9%	13.0%	5.5%	3.4%	5.5%	0.6%	506
Administrative Leadership								
Director	3.5%	10.3%	23.3%	18.1%	13.6%	30.8%	0.6%	546
Assistant Director	8.7%	18.1%	31.5%	19.3%	7.5%	15.0%		254
Director Designee	15.9%	23.0%	28.4%	14.2%	7.7%	10.4%	0.6%	183
Coach or Coordinator	7.4%	26.9%	21.3%	17.6%	7.4%	19.4%		108
Owners and Licensees	9.3%	14.6%	18.6%	13.0%	11.5%	32.4%	0.7%	1,116
Support Occupations								
Administrative Assistant or Office Manager	21.4%	29.8%	22.5%	7.3%	8.4%	9.6%	1.1%	178
Cook	35.5%	31.4%	15.7%	8.1%	2.9%	6.4%		172
Custodian or Janitor	41.0%	25.6%	15.4%	5.1%	5.1%	5.1%	2.6%	78
Driver	21.8%	34.6%	20.5%	14.1%	5.1%	3.9%		78
Other Onsite Supporting Staff	26.2%	26.0%	20.3%	10.7%	6.2%	10.2%	0.3%	626

Table A.6: Percent of Child Care Workforce with a Child Development Associate (CDA) or Equivalent Credential for for Individual Occupations

Educational Attainment and Child Development Associate or Equivalent Credential, by Occupation						
	With CDA	Some high school no degree	High School Diploma or GED	Some College, no Degree	Associate Degree	Bachelors Degree
All Occupations	20.4%	6.4%	28.9%	28.5%	11.7%	17.7%
Caregivers and Teachers						
Lead Caregiver or Teacher	24.4%	5.2%	31.7%	28.0%	9.9%	19.2%
Assistant Caregiver or Teacher	10.0%	10.8%	31.5%	28.7%	12.9%	12.8%
Substitute or Floater Caregiver or Teacher	11.6%	8.5%	32.2%	27.6%	13.4%	13.0%
Administrative Leadership						
Director	49.5%	0.9%	15.4%	24.0%	14.3%	30.4%
Assistant Director	33.9%	1.6%	32.7%	37.4%	11.0%	14.6%
Director Designee	24.7%	1.1%	27.3%	27.9%	9.8%	21.3%
Coach or Coordinator	26.9%		10.2%	24.1%	13.9%	31.5%
Owners and Licensees	23.1%	4.8%	26.7%	30.5%	14.5%	16.5%
Support Occupations						
Administrative Assistant or Office Manager	21.4%	2.3%	19.1%	33.7%	14.6%	24.2%
Cook	7.0%	8.7%	45.9%	23.8%	8.1%	10.5%
Custodian or Janitor	3.9%	19.2%	26.9%	26.9%	5.1%	10.3%
Driver	2.6%	10.3%	34.6%	29.5%	6.4%	14.1%
Other Onsite Supporting Staff	16.8%	3.0%	15.5%	27.5%	11.0%	24.3%

Table A.6 (cont'd): Percent of Child Care Workforce with a Child Development Associate (CDA) or Equivalent Credential for for Individual Occupations

Educational Attainment and Child Development Associate or Equivalent Credential, by Occupation					
	Masters Degree	Doctorate Degree	BA or More	Declined	n (n CDA)
All Occupations	4.8%	0.4%	22.9%	1.6%	10,005 (9,997)
Caregivers and Teachers					
Lead Caregiver or Teacher	4.1%	0.3%	23.6%	1.6%	3,535 (3,532)
Assistant Caregiver or Teacher	1.9%		14.7%	1.4%	2,618 (2,615)
Substitute or Floater Caregiver or Teacher	3.2%		16.2%	2.2%	507
Administrative Leadership					
Director	13.6%	0.7%	44.7%	0.7%	546
Assistant Director	1.6%	0.4%	16.5%	0.8%	254
Director Designee	10.9%		32.2%	1.6%	183 (182)
Coach or Coordinator	20.4%		51.9%	0.0%	108
Owners and Licensees	3.5%	1.0%	20.9%	2.6%	1,118 (1,117)
Support Occupations					
Administrative Assistant or Office Manager	5.1%	0.6%	29.8%	0.6%	178
Cook	0.6%		11.1%	2.3%	172
Custodian or Janitor			10.3%	11.5%	78
Driver	2.6%	1.3%	17.9%	1.3%	78
Other Onsite Supporting Staff	15.8%	1.8%	41.9%	1.0%	625

Table A.7: Major Degree Fields Among Child Care Workers with at Least Some College for Individual Occupations

Major Field of Study Among Workers With Some College or More Education, by Occupation					
	Early Childhood Education	Elementary Education	Related Major (Child Development, Family Studies, Educational Psychology, etc)	Other Major or Emphasis	n
All Occupations	20.6%	14.2%	22.5%	42.8%	4,157
Caregivers and Teachers					
Lead Caregiver or Teacher	26.1%	19.1%	22.9%	31.9%	1,440
Assistant Caregiver or Teacher	15.6%	14.7%	21.2%	48.6%	996
Substitute or Floater Caregiver or Teacher	12.9%	15.5%	21.1%	50.5%	194
	28.0%	6.0%	23.0%	33.0%	
Administrative Leadership					
Director	27.3%	13.5%	31.5%	27.6%	333
Assistant Director	31.1%	6.7%	25.6%	36.7%	90
Director Designee	24.7%	10.1%	25.8%	39.3%	89
Coach or Coordinator	26.9%	11.5%	25.6%	35.9%	78
Owners and Licensees	23.2%	7.9%	18.0%	50.9%	405
Support Occupations					
Administrative Assistant or Office Manager	10.0%	8.9%	17.8%	63.3%	90
Other Onsite Supporting Staff	8.0%	7.2%	22.8%	62.1%	377

Table A.8: Hours Worked Per Week for for Individual Occupations

	Hours Worked Per Week, by Occupation					
	1 to 9 Hours	10 to 19 Hours	20 to 29 Hours	30+ Hours	Declined	n
All Occupations	5.6%	9.9%	19.0%	64.6%	1.0%	10,004
Caregivers and Teachers						
Lead Caregiver or Teacher	2.8%	6.6%	15.3%	74.3%	1.0%	3,536
Assistant Caregiver or Teacher	7.9%	17.2%	31.8%	42.4%	0.7%	2,617
Substitute or Floater Caregiver or Teacher	23.1%	17.4%	19.5%	37.5%	2.6%	507
Administrative Leadership						
Director	0.4%	2.8%	6.0%	90.3%	0.6%	546
Assistant Director	1.6%	4.7%	7.1%	85.8%	0.8%	254
Director Designee	2.7%	4.4%	10.9%	81.4%	0.6%	183
Coach or Coordinator	0.0%	9.3%	33.3%	57.4%		108
Owners and Licensees	1.8%	2.3%	5.7%	88.6%	1.5%	1,117
Support Occupations						
Administrative Assistant or Office Manager	7.9%	9.0%	21.9%	60.7%	0.6%	178
Cook	4.1%	5.8%	19.2%	70.4%	0.6%	172
Custodian or Janitor	29.5%	28.2%	18.0%	23.1%	1.3%	78
Driver	11.5%	18.0%	20.5%	48.7%	1.3%	78
Other Onsite Supporting Staff	7.7%	12.8%	25.6%	53.0%	1.0%	625

Table A.9: Annual Work Schedules of the Child Care Workforce for Individual Occupations

Annual Schedule, by Occupation					
	Year round	School Year	Summer Only	Declined	n
All Occupations	81.9%	15.7%	1.4%	1.0%	10,003
Caregivers and Teachers					
Lead Caregiver or Teacher	79.6%	17.8%	1.5%	1.1%	3,535
Assistant Caregiver or Teacher	76.7%	20.6%	1.8%	0.8%	2,617
Substitute or Floater Caregiver or Teacher	84.0%	11.1%	3.9%	1.0%	507
Administrative Leadership					
Director	91.8%	7.3%	0.2%	0.7%	546
Assistant Director	92.4%	5.5%	0.6%	1.6%	183
Director Designee	67.6%	28.7%	1.9%	1.9%	108
Coach or Coordinator	96.5%	3.5%		0.0%	254
Owners and Licensees	95.6%	2.9%		1.5%	1,117
Support Occupations					
Administrative Assistant or Office Manager	89.9%	7.3%	1.7%	1.1%	178
Cook	97.7%	1.2%	1.2%		172
Custodian or Janitor	100.0%				78
Driver	91.0%	7.7%		1.3%	78
Other Onsite Supporting Staff	64.8%	32.3%	1.9%	1.0%	625

Table A.10: Share of the Child Care Workforce that Holds an Additional Job or Jobs to Cover Basic Living Expenses for Individual Occupations

Working Additional Job or Jobs to Meet Basic Needs, by Occupation					
	Yes	Sometimes	No	Declined	n
All Occupations	21.0%	10.3%	66.5%	2.3%	10,001
Caregivers and Teachers					
Lead Caregiver or Teacher	15.9%	10.2%	71.8%	2.1%	3,534
Assistant Caregiver or Teacher	24.3%	10.7%	63.3%	1.7%	2,617
Substitute or Floater Caregiver or Teacher	37.3%	10.1%	50.7%	2.0%	507
Administrative Leadership					
Director	16.3%	9.9%	70.7%	3.1%	546
Assistant Director	14.6%	12.2%	72.4%	0.8%	254
Director Designee	21.4%	9.3%	68.1%	1.1%	182
Coach or Coordinator	27.8%	17.6%	50.9%	3.7%	108
Owners and Licensees	17.7%	8.4%	70.2%	3.7%	1,117
Support Occupations					
Administrative Assistant or Office Manager	25.8%	11.8%	59.0%	3.4%	178
Cook	14.5%	7.6%	76.2%	1.7%	172
Custodian or Janitor	47.4%	3.9%	42.3%	6.4%	78
Driver	42.3%	7.7%	48.7%	1.3%	78
Other Onsite Supporting Staff	28.8%	12.0%	56.6%	2.6%	625

Table A.11: Hourly Wage for Individual Occupations

Selected Percentiles of Hourly Wage Distribution by Occupation						
	10th	25th	50th	75th	90th	n
All Occupations	$12	$14	$15	$17.50	$22	8,118
Caregivers and Teachers						
Lead Caregiver or Teacher	$12.25	$15	$15	$17.21	$21	3,051
Assistant Caregiver or Teacher	$11	$13	$15	$15	$17.14	2,291
Substitute or Floater Caregiver or Teacher	$11.47	$13	$15	$15	$16.21	441
Administrative Leadership						
Director	$15	$18	$21.88	$26.89	$35	396
Assistant Director	$15	$15	$17	$19.25	$23	212
Director Designee	$15	$15	$17	$21	$24	152
Coach or Coordinator	$15	$17	$18.60	$22.50	$32	84
Owners and Licensees	$4	$13	$15	$20.25	$30	573
Support Occupations						
Administrative Assistant or Office Manager	$14	$15	$16.25	$19.05	$22.40	154
Cook	$12	$14.32	$15	$15.78	$17.50	146
Custodian or Janitor	$10	$14	$15	$16	$20	60
Driver	$13	$15	$15	$18.07	$21.90	60
Other Onsite Supporting Staff	$13.50	$15	$17	$22	$35.60	488

Table A.12: Benefits Available to Child Care Workers for Individual Occupations

Benefits Availability, by Occupation				
	Health Insurance	Dental Insurance	Other Insurance (Life, Disability or other)	Retirement Contributions
All Occupations	44.1%	37.3%	21.4%	20.4%
Caregivers and Teachers				
Lead Caregiver or Teacher	48.4%	41.1%	22.0%	21.5%
Assistant Caregiver or Teacher	31.4%	25.6%	12.3%	10.7%
Substitute or Floater Caregiver or Teacher	38.6%	29.9%	12.8%	10.7%
Administrative Leadership				
Director	59.5%	52.7%	37.5%	37.0%
Assistant Director	45.2%	41.7%	18.1%	16.6%
Director Designee	55.6%	48.3%	35.8%	35.1%
Coach or Coordinator	78.5%	67.7%	50.8%	35.4%
Owners and Licensees	13.6%	8.8%	3.9%	7.0%
Support Occupations				
Administrative Assistant or Office Manager	48.0%	41.5%	25.2%	26.8%
Cook	45.6%	39.2%	24.0%	18.4%
Custodian or Janitor	37.14%	22.9%	14.3%	28.6%
Driver	41.7%	35.4%	29.2%	25.0%
Other Onsite Supporting Staff	72.3%	65.0%	47.4%	43.8%

Table A.12 (cont'd): Benefits Available to Child Care Workers for Individual Occupations

Benefits Availability, by Occupation			
	Paid Sick Leave	Paid Holidays	Paid Personal Time Off
All Occupations	30.4%	50.1%	47.1%
Caregivers and Teachers			
Lead Caregiver or Teacher	31.3%	51.6%	50.6%
Assistant Caregiver or Teacher	22.1%	38.4%	33.7%
Substitute or Floater Caregiver or Teacher	18.5%	39.6%	31.5%
Administrative Leadership			
Director	46.6%	68.0%	66.5%
Assistant Director	30.7%	65.8%	56.8%
Director Designee	37.8%	62.3%	61.6%
Coach or Coordinator	63.1%	66.2%	67.7%
Owners and Licensees	18.3%	46.6%	30.1%
Support Occupations			
Administrative Assistant or Office Manager	35.0%	54.5%	52.9%
Cook	28.0%	58.4%	51.2%
Custodian or Janitor	20.0%	42.9%	40.0%
Driver	31.3%	62.5%	47.9%
Other Onsite Supporting Staff	50.5%	53.9%	62.4%

Table A.12 (cont'd): Benefits Available to Child Care Workers for Individual Occupations

Benefits Availability, by Occupation						
	Free Child Care	Discounted Child Care	Meals Provided	Educational Assistance	Other Benefits	None of the Above
All Occupations	23.6%	36.3%	41.6%	21.6%	13.3%	33.0%
Caregivers and Teachers						
Lead Caregiver or Teacher	21.0%	41.5%	37.9%	22.9%	12.0%	26.6%
Assistant Caregiver or Teacher	23.6%	30.5%	50.5%	18.2%	13.7%	42.4%
Substitute or Floater Caregiver or Teacher	22.8%	37.9%	54.4%	22.8%	16.1%	34.7%
Administrative Leadership						
Director	27.9%	39.9%	28.8%	30.5%	15.9%	12.4%
Assistant Director	30.2%	45.7%	41.2%	24.6%	10.6%	16.0%
Director Designee	32.5%	39.7%	29.8%	21.2%	14.6%	12.7%
Coach or Coordinator	10.8%	26.2%	16.9%	20.0%	10.8%	36.9%
Owners and Licensees	41.6%	24.2%	56.8%	20.6%	14.9%	52.2%
Support Occupations						
Administrative Assistant or Office Manager	27.6%	39.8%	39.8%	22.0%	13.8%	25.0%
Cook	28.0%	42.4%	61.6%	24.8%	11.2%	23.8%
Custodian or Janitor	20.0%	25.7%	54.3%	17.1%	11.4%	40.7%
Driver	14.6%	16.7%	35.4%	10.4%	16.7%	33.3%
Other Onsite Supporting Staff	9.3%	28.0%	23.3%	14.3%	15.3%	32.6%

APPENDIX B: Content Analysis Methodological Appendix

This appendix describes the steps of data preparation and analysis for responses to the following free-form survey question.

We would like to better understand the current workforce and encourage others to join the career field. What is your main reason or motivator for working in the youth or early care and education field?

B1. Data Preparation

Content analysis requires several preprocessing steps. The first task in data preprocessing is to reduce data to distinct and comparable units by eliminating typos, special characters, punctuation, excessive spaces, and numbers, filtering out common stop words such as "and" or "the," and removing frequently occurring words that lack inherent meaning, such as "something" or "really." The reduced data is aligned to common word forms via lemmatization. Lemmatization describes transforming words to their bases (lemmas) by removing inflectional endings or suffixes. Lemmatizing simplifies words to their dictionary form so they can be analyzed as a single item. For instance, words such as "encouraging", "encourages" or "encouraged" reduced to the form of "encourage," while words like "were," "are," and "is," are transformed to "be."

After reducing and lemmatizing the text, we generated a document term matrix (DTM) to capture the frequency of words and provide a comprehensive view of word occurrences. Using the DTM we aggregated the word counts to produce a list of words alongside their respective frequencies in the responses. This list served as the basis for manual intervention for us to identify and correct misspelled words and to substitute frequently repeated similar words with commonly accepted synonyms. For instance, variations such as "daycare," "day care," and "child care" are unified as "childcare," while terms like "children," "kid," are "kiddo," are simplified to "child." Manual intervention for misspelled words and synonyms was exclusively applied to words that occur more than 30 times. These manual interventions enhance the accuracy and consistency of the text for word cloud and topic analysis.

B2. Topic Analysis

The word cloud is generated directly from the DTM and frequency list. Topic analysis requires greater contextualization and detailed examination of words and phrases. Our definition of themes in the data proceeded manually following the methodology outlined by Ferrario and Stantcheva (2022)[14]. The DTM and word cloud provided initial indication of primary motivators, including the centrality of the child, positive feelings of love and enjoyment, and professional commitment to service tasks such as teaching. After comprehensive examination of the DTM we reviewed a sample of 15 percent of the data in order to understand how survey respondents interpreted the free-form question and to gain a deeper comprehension of key terms and phrases in the context of their responses. Close reading of the data sample produced a list of 12 potential themes and key words or phrases that would signify affiliation with a theme.

Additional data processing followed the determination of themes. Using the frequency list as a guide, this step involved aggregation of synonyms and other words with similar meanings, and correction of misspellings similar to the approach used in the word cloud generation but specifically applied to the keywords associated with the pre-defined topics, irrespective of their frequencies. In this step the primary objective was to categorize the answers based on the potential themes developed in the previous step, emphasizing the prioritization of topic classification over frequency considerations.

The themes and keywords used for this analysis are reproduced in the following list. These words and phrases were employed to capture the unique motivations expressed in the responses of childcare workers.

Broad theme: Contributions to Society (encompasses themes 1 through 4)

Theme 1: Contributions to child development: *develop, grow, learn, flourish, prepare, skill, progress, learn, environment, foundation, potential, safe, lifelong, health, smile, milestones, enrich, confidence, need, raise, value, succeed, deserve, early year, early age, early intervention*

Theme 2: Sense of purpose: *make a difference, make difference, make the difference, make a good difference, make a significant difference, make the biggest difference, make a big difference, the difference i make, make a change, make change, impact, positive influence,*

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14   Ferrario, B., & Stantcheva, S. (2022, May). Eliciting people's first-order concerns: text analysis of open-ended survey questions. In AEA Papers and Proceedings (Vol. 112, pp. 163-69).

impression, contribute, being a part, look up to, direct hand, inspire, change for the better, shape, giving back, important, influence, legacy, role model, mentor, guide, example to

Theme 3: Contributions to community: *community, family, society, parent, relationship, adult worker, immigrants, culture, cultural*

Theme 4: Contributions to the future: *generation, world, one day, future*

Broad Theme: Labor of Love (encompasses themes 5 and 6)

Theme 5: Inherent rewards: *joy, love, reward, challenge, enjoy, fun, creative, variety, different, something new, learn from child, learn from them, teach us, teach me, hug on, fulfilling*

Theme 6: Calling: *calling, called, educator, aspire, passion, passionate, dream job, teacher, degree, career, study, knack, work experience, social worker, go into education*

Broad theme: Work Environment (encompasses themes 7 through 10)

Theme 7: Accommodates time with own family: *own child, own little child, my child, my young child, child of my own, work from home, son, daughter, wife, my son, husband, be home, i have a child with disabilities, stay at home, mother, grandson, granddaughter, grandchild, own family, i have young child, i have a child, our child, help my sister, help my significant other.*

Theme 8: Work schedule: *schedule, hour, spend more time, flexibility, evenings free, mon friday, nine to five, mf, work and life*

Theme 9: Self-employment: *my in home daycare, own daycare, own childcare, business, self employed, work for myself, own boss, own a childcare, co owner*

Theme 10: Personnel/Coworkers: *Staff, work environment, boss, employer, employees, work with adult, work with an adult, work with the adult, coworker*

Additional Themes

Theme 11: Money: *income, money, expense, bills, finance, paid, paycheck, pay, make a living, wage, free childcare, discount, compensation*

Theme 12: No other childcare available: *no childcare, area, find childcare, couldnt find*

The words and phrases listed above were used to identify responses that align with a theme or themes. Data analysis proceeded by generating a dummy variable that takes a value of 1 when an answer includes a term from the custom-made topic dictionary. This dummy variable

indicates the presence of specific topics within each response. Several responses encompass multiple topics and appear under the associated themes if they utilize keywords indicating different topic categories.

The 12 dummy variables provided thematic categorization for 94 percent of the data. The remaining data were reviewed for thematic affiliation and additional themes but did not provide new thematic insights. Many of the uncategorized responses could be summarized in the statement "I like to work with children" but do not include a basis for categorization. A sample of categorized data was reviewed to ensure appropriate categorization. Examples of categorized data are included below to demonstrate the affiliation of responses within each theme.

Broad Theme: Contributions to Society

Theme 1, Contributions to Child Development:

I feel that we have a vitally important job to help children to be prepared (socially, emotionally, physically, educationally, etc.) to create successful relationships and lives. We do that each day by helping them to develop the skills and strengths needed to thrive (not just survive) in life.

Theme 2: Sense of Purpose

I work in early Child Development because I love being able to make a difference in the lives of those I serve.

Theme 3: Contributions to Community

I *love helping the community. So many different jobs are done by the parents who trust us with their children and it's nice to be able to provide a service they need.*

Theme 4: Contributions to the Future

Children are the future, educating the future of humanity is a very important task and the best legacy to leave on earth.

Broad Theme: Labor of Love

Theme 5: Child Care Work has Inherent Benefits

The work is incredibly rewarding and leads to deep self-reflection and personal growth. Children invite us to see the best and worst of ourselves and encourage us to grow and change in a way no other job does. Working with children brings hope and love to my life and provides incredible meaning.

Theme 6: Child Care Work is a Calling

My main motive or motivator for working in the field of education is because it is my passion. Since I was a child, I knew that I wanted to be a teacher. Not everyone can be a teacher. It takes patience, flexibility, multitasking, quick thinking, and of course, a love of children. More money would be great!

Broad Theme: Work Environment

Theme 7: Accommodates time With Own Family

I work as a child care provider because it is a way I can monetarily support my family while at the same time taking care of my own children.

Theme 8: Work Schedule

The schedule. I am able to work the same hours my own kids are at school and be home when they are home.

Theme 9: Self-employment

I really enjoy working with kids and I love the freedom of being my own boss and working from my home.

Theme 10: Co-workers

Having a good work environment and good coworkers. Having amazing bosses who help and understand our needs for ourselves and our classrooms and children.

Additional Themes:

Theme 11: Money

Positive: *I was so excited to find something that I could do to earn an income while also watching my own children. An in-home daycare has fit that need perfectly.*

Negative: *My main reason is because I have a true passion for child development. However if I was the sole financial provider for my family, I would not be able to continue working in the field because the wages are not live-able.*

Theme 12: No Other Child Care Available

Initially I started my family childcare program because I couldn't find good care for my own two children. I have stayed in for a variety of reasons. It's been a great thing for our family as I've built my business. I also feel sort of called to stay in it now even though my kids are older.

APPENDIX C: Full Regression Results for Section 5, Child Care Workforce Earnings

Table C1: ln(wage) Regression Results for Full Survey Sample (All Occupations)

	exp(b)	Robust std. err.	t	P>ltl	[95% conf. interval]	
Educational Attainment						
Some high school	.934938	.0129159	-4.87	0.000	.9099589	.9606028
Some college	1.027918	.0076933	3.68	0.000	1.012947	1.04311
Associate degree	1.046627	.0108622	4.39	0.000	1.025549	1.068138
Bachelor's degree	1.123647	.010472	12.51	0.000	1.103305	1.144363
Graduate degree	1.410584	.0299608	16.20	0.000	1.353058	1.470556
CDA Credential						
Has CDA	1.042285	.0087948	4.91	0.000	1.025186	1.059669
Experience						
0-1 year	.9841701	.006879	-2.28	0.022	.9707772	.9977477
5-9 years	1.040201	.0090067	4.55	0.000	1.022694	1.058007
10-14 years	1.082366	.0136561	6.27	0.000	1.055924	1.109469
15-19 years	1.100789	.017559	6.02	0.000	1.066901	1.135753
20+ years	1.139423	.0167334	8.89	0.000	1.107089	1.172702
Gender						
Male	1.06789	.01282	5.47	0.000	1.043052	1.093319
Non-binary/Other	.9592155	.049695	-0.80	0.422	.8665827	1.06175
Race						
Asian	.9827409	.0316862	-0.54	0.589	.9225492	1.04686
Black or African American	.9869612	.0185497	-0.70	0.485	.9512601	1.024002
Native American and Alaska Native	.9941253	.0263596	-0.22	0.824	.9437728	1.047164
Pacific Islander and Hawaiian Native	.9680216	.0197529	-1.59	0.111	.9300645	1.007528
Other	.9876579	.0124142	-0.99	0.323	.9636198	1.012296
Ethnicity						
Hispanic or Latino	.9975559	.0080771	-0.30	0.762	.9818474	1.013516
Part-time Work						
Part Time	.9138875	.0060819	-13.53	0.000	.9020426	.9258879

Metropolitan Area						
Logan	.9561728	.01655	-2.59	0.010	.9242743	.9891722
Ogden-Clearfield	.9679528	.0076111	-4.14	0.000	.9531473	.9829883
Provo-Orem	.9774809	.0085209	-2.61	0.009	.9609193	.9943279
St. George	.9581879	.012646	-3.24	0.001	.9337161	.9833011
Eastern Nonmetro	.9936233	.0205299	-0.31	0.757	.9541829	1.034694
Central Nonmetro	.8860637	.0133266	-8.04	0.000	.8603211	.9125765
Provider License Type						
Commercial Pres.	1.0397	.0157813	2.56	0.010	1.00922	1.071101
Exempt Center	1.20018	.0130869	16.73	0.000	1.174798	1.22611
School Age Prog.	1.123111	.0117783	11.07	0.000	1.100258	1.146439
FFN in Child's Home	.7006031	.27749	-0.90	0.369	.3223138	1.522879
FFN in Provider's Home	.3600976	.0665104	-5.53	0.000	.2507129	.5172064
Hourly Center	.8615368	.0226737	-5.66	0.000	.8182168	.9071502
Licensed Family	.9712219	.0104686	-2.71	0.007	.9509159	.9919616
Out of School Time	1.029847	.04533	0.67	0.504	.9447131	1.122653
Residential Certif.	.5472028	.0744255	-4.43	0.000	.4191377	.7143975
Occupation						
Assistant Director	1.133554	.0185863	7.65	0.000	1.097698	1.17058
Cook	1.045217	.0195524	2.36	0.018	1.007583	1.084257
Custodian or Janitor	1.101261	.0431404	2.46	0.014	1.019858	1.18916
Director	1.301938	.0221706	15.49	0.000	1.259195	1.346132
Director Designee	1.128259	.0294101	4.63	0.000	1.072055	1.18741
Driver	1.108212	.0332701	3.42	0.001	1.044875	1.175388
Lead Caregiver or Teach	1.053654	.0070061	7.86	0.000	1.040009	1.067478
Administrative Assistant	1.123579	.0200369	6.53	0.000	1.084979	1.163551
Coach or Coordinator	1.182773	.0296303	6.70	0.000	1.126093	1.242307
Other Support Staff	1.164677	.0175574	10.11	0.000	1.130763	1.199608
Owner or Licensee	1.108622	.0289001	3.96	0.000	1.053393	1.166747
Subdirector	.984817	.0371028	-0.41	0.685	.9147058	1.060302
Substitute/Floater	.9992728	.0124749	-0.06	0.954	.9751152	1.024029
Constant	14.22307	.1309892	288.27	0.000	13.9686	14.48218

Table C2: ln(wage) Regression Results for Caregiving and Teaching Occupations

	exp(b)	Robust std. err.	t	P>|t|	[95% conf. interval]	
Educational Attainment						
Some high school	.9560501	.0104248	-4.12	0.000	.93583	.9767071
Some college	1.037198	.0067439	5.62	0.000	1.024061	1.050503
Associate degree	1.037718	.0102145	3.76	0.000	1.017885	1.057937
Bachelor's degree	1.11056	.0102918	11.32	0.000	1.090566	1.130921
Graduate degree	1.323141	.0335705	11.04	0.000	1.258939	1.390617
CDA Credential						
Has CDA	1.061202	.0088722	7.11	0.000	1.04395	1.078738
Experience						
0-1 year	.9920531	.0063548	-1.25	0.213	.979673	1.00459
5-9 years	1.046542	.00905	5.26	0.000	1.02895	1.064435
10-14 years	1.075697	.0127266	6.17	0.000	1.051034	1.100938
15-19 years	1.108185	.0195475	5.82	0.000	1.070519	1.147177
20+ years	1.141321	.0162057	9.31	0.000	1.109989	1.173537
Gender						
Male	1.033926	.013855	2.49	0.013	1.007118	1.061448
Non-binary/Other	.9359572	.0625048	-0.99	0.322	.8211043	1.066875
Race						
Asian	.9709061	.0217776	-1.32	0.188	.929138	1.014552
Black or African American	.9744333	.0167896	-1.50	0.133	.9420684	1.00791
Native American and Alaska Native	1.019006	.0308554	0.62	0.534	.9602775	1.081327
Pacific Islander and Hawaiian Native	.952112	.018146	-2.57	0.010	.9171947	.9883586
Other	1.009461	.0107983	0.88	0.379	.9885127	1.030854
Ethnicity						
Hispanic or Latino	.9918493	.0070418	-1.15	0.249	.9781401	1.005751
Part-time Work						
Part Time	.9175567	.0061362	-12.87	0.000	.9056057	.9296654
Metropolitan Area						
Logan	.9728761	.0156917	-1.70	0.088	.9425952	1.00413
Ogden-Clearfield	.9774668	.0069046	-3.23	0.001	.9640242	.9910968
Provo-Orem	.9952759	.0073157	-0.64	0.519	.9810369	1.009721

St. George	.9858802	.0113027	-1.24	0.215	.9639693	1.008289
Eastern Nonmetro	1.002008	.0208413	0.10	0.923	.9619727	1.043711
Central Nonmetro	.8784854	.0127795	-8.91	0.000	.8537861	.9038992
Provider License Type						
Commercial Pres.	1.042452	.0153331	2.83	0.005	1.012822	1.072949
Exempt Center	1.208695	.0141304	16.21	0.000	1.181308	1.236716
School Age Prog.	1.15792	.0148433	11.44	0.000	1.129184	1.187388
FFN in Child's Home	.3671746	.0948462	-3.88	0.000	.2212817	.6092561
FFN in Provider's Home	.6048836	.0103883	-29.27	0.000	.5848572	.6255956
Hourly Center	.8840097	.0282524	-3.86	0.000	.8303229	.9411679
Licensed Family	1.028739	.0104058	2.80	0.005	1.00854	1.049342
Out of School Time	.9594939	.029426	-1.35	0.178	.9035068	1.01895
Residential Certif.	.813303	.2012081	-0.84	0.404	.5007491	1.320945
Occupation						
Lead Caregiver or Teach	1.067647	.0069705	10.03	0.000	1.054069	1.0814
Substitute/Floater	1.003243	.0124121	0.26	0.794	.9792026	1.027873
Constant	13.78433	.1155099	313.08	0.000	13.55974	14.01265

Table C3: ln(wage) Regression Results for Administrative Leadership Occupations

	exp(b)	Robust std. err.	t	P>ltl	[95% conf. interval]	
Educational Attainment						
Some high school	.6721156	.182145	-1.47	0.143	.3948087	1.144198
Some college	.998648	.0253897	-0.05	0.958	.9500267	1.049758
Associate degree	1.029489	.0327669	0.91	0.361	.9671298	1.095869
Bachelor's degree	1.125014	.0299783	4.42	0.000	1.067674	1.185434
Graduate degree	1.37209	.0646514	6.71	0.000	1.25086	1.505068
CDA Credential						
Has CDA	1.012073	.0203081	0.60	0.550	.972979	1.052737
Experience						
0-1 year	.9895933	.0472454	-0.22	0.827	.9010557	1.086831
5-9 years	1.025252	.0297646	0.86	0.391	.9684528	1.085383
10-14 years	1.109051	.0365544	3.14	0.002	1.03956	1.183187
15-19 years	1.155783	.04506	3.71	0.000	1.070622	1.247717
20+ years	1.222071	.0429099	5.71	0.000	1.140669	1.309283
Gender						
Male	1.117643	.0433042	2.87	0.004	1.035782	1.205975
Non-binary/Other	1.07827	.0810885	1.00	0.317	.9302715	1.249813
Race						
Asian	.9305587	.0510607	-1.31	0.190	.8355273	1.036399
Black or African American	.9135032	.0342836	-2.41	0.016	.8486176	.9833499
Native American and Alaska Native	.8710356	.0461781	-2.60	0.009	.7849374	.9665776
Pacific Islander and Hawaiian Native	1.016804	.173055	0.10	0.922	.7279955	1.420188
Other	1.064449	.052988	1.25	0.210	.965345	1.173727
Ethnicity						
Hispanic or Latino	.9727998	.0270622	-0.99	0.322	.9210964	1.027405
Part-time Work						
Part Time	.8916677	.0251875	-4.06	0.000	.843566	.9425123
Metropolitan Area						
Logan	1.002646	.0478101	0.06	0.956	.9130446	1.101039
Ogden-Clearfield	.9546924	.0242205	-1.83	0.068	.9083077	1.003446
Provo-Orem	.9451214	.0279778	-1.91	0.057	.8917612	1.001675

St. George	.9106186	.0384193	-2.22	0.027	.8382334	.9892547
Eastern Nonmetro	.9713032	.0648037	-0.44	0.663	.852061	1.107233
Central Nonmetro	.8334432	.0430235	-3.53	0.000	.7531188	.9223346
Provider License Type						
Commercial Pres.	.949096	.0360381	-1.38	0.169	.8809192	1.022549
Exempt Center	1.177722	.0527819	3.65	0.000	1.078529	1.286038
School Age Prog.	1.139845	.0292003	5.11	0.000	1.083937	1.198637
FFN in Child's Home	.8012556	.0282384	-6.29	0.000	.7476926	.8586557
FFN in Provider's Home	.8837506	.0437371	-2.50	0.013	.8019259	.9739244
Hourly Center	1.152872	.0865682	1.89	0.059	.9948553	1.335987
Licensed Family	.2163312	.0133937	-24.73	0.000	.1915719	.2442904
Out of School Time	.9594939	.029426	-1.35	0.178	.9035068	1.01895
Residential Certif.	.813303	.2012081	-0.84	0.404	.5007491	1.320945
Occupation						
Director	1.137209	.02754	5.31	0.000	1.084408	1.192581
Director Designee	1.002351	.0294027	0.08	0.936	.946259	1.061769
Coach or Coordinator	1.029258	.0362092	0.82	0.413	.9605715	1.102855
Subdirector	.9234913	.0367649	-2.00	0.046	.8540632	.9985632
Constant	16.72294	.6092346	77.32	0.000	15.56867	17.96279

Table C4: ln(wage) Regression Results for Owners and Licensees

	exp(b)	Robust std. err.	t	P>ltl	[95% conf. interval]	
Educational Attainment						
Some high school	.790505	.1223427	-1.52	0.129	.5832082	1.071484
Some college	1.056204	.0829482	0.70	0.487	.9051583	1.232455
Associate degree	1.126136	.089949	1.49	0.138	.9625521	1.317521
Bachelor's degree	1.086743	.0798767	1.13	0.258	.9405872	1.25561
Graduate degree	1.161238	.1231266	1.41	0.159	.9428271	1.430246
CDA Credential						
Has CDA	1.057803	.0605218	0.98	0.327	.9453143	1.183677
Experience						
0-1 year	.8673658	.101798	-1.21	0.226	.688716	1.092357
5-9 years	.8497419	.0818498	-1.69	0.092	.7032054	1.026814
10-14 years	.9310196	.1020561	-0.65	0.515	.7505994	1.154807
15-19 years	.8187497	.0872433	-1.88	0.061	.6640681	1.009461
20+ years	.8844496	.0864774	-1.26	0.210	.729842	1.071809
Gender						
Male	1.020163	.0746045	0.27	0.785	.8836055	1.177825
Non-binary/Other	1.471554	.12474	4.56	0.000	1.245757	1.738278
Race						
Asian	1.145461	.1980374	0.79	0.433	.8155151	1.608897
Black or African American	1.234066	.1654763	1.57	0.117	.9482043	1.606108
Native American and Alaska Native	1.668412	.6705513	1.27	0.203	.7573595	3.675397
Pacific Islander and Hawaiian Native						
Other	.7798309	.0834974	-2.32	0.021	.6318631	.9624493
Ethnicity						
Hispanic or Latino	1.107642	.0719619	1.57	0.116	.9748851	1.258477
Part-time Work						
Part Time	.9949453	.0869412	-0.06	0.954	.8379617	1.181338
Metropolitan Area						
Logan	.8889287	.1224458	-0.85	0.393	.6781273	1.165259
Ogden-Clearfield	.9854716	.0719309	-0.20	0.841	.8537905	1.137462
Provo-Orem	.8248017	.0633556	-2.51	0.012	.709243	.9591887

St. George	.8534039	.1589564	-0.85	0.395	.5918256	1.230596
Eastern Nonmetro	.9459553	.1303271	-0.40	0.687	.7215913	1.240081
Central Nonmetro	.8778324	.0735579	-1.55	0.121	.7445582	1.034962
Provider License Type						
Commercial Pres.	1.19521	.1985847	1.07	0.284	.8622772	1.656692
Exempt Center						
School Age Prog.	2.196698	.3118501	5.54	0.000	1.661939	2.903526
FFN in Child's Home	.6443946	.284423	-1.00	0.320	.2706861	1.534044
FFN in Provider's Home	.25859	.0526102	-6.65	0.000	.1733731	.3856929
Hourly Center	1.078357	.1240972	0.66	0.512	.8601026	1.351994
Licensed Family	.7597673	.0441764	-4.73	0.000	.6777326	.8517317
Out of School Time	1.351521	.1295213	3.14	0.002	1.119529	1.631585
Residential Certif.	.4317773	.0719808	-5.04	0.000	.3111618	.5991467
Occupation						
Owner or Licensee	1	(omitted)				
Constant	23.05155	2.596224	27.86	0.000	18.47486	28.762

Table C5: ln(wage) Regression Results for Support Occupations

	exp(b)	Robust std. err.	t	P>ltl	[95% conf. interval]	
Educational Attainment						
Some high school	.8663005	.0336446	-3.70	0.000	.802712	.9349264
Some college	1.002181	.0208747	0.10	0.917	.9620314	1.044007
Associate degree	1.05099	.0296345	1.76	0.078	.9943987	1.110801
Bachelor's degree	1.157028	.0321058	5.26	0.000	1.095691	1.221799
Graduate degree	1.663147	.0840106	10.07	0.000	1.506149	1.83651
CDA Credential						
Has CDA	.984476	.026674	-0.58	0.564	.9334839	1.038254
Experience						
0-1 year	.9801604	.0219086	-0.90	0.370	.9380843	1.024124
5-9 years	1.06154	.0265752	2.39	0.017	1.010635	1.11501
10-14 years	1.080616	.0438196	1.91	0.056	.9979337	1.170148
15-19 years	1.164001	.0480184	3.68	0.000	1.073458	1.262181
20+ years	1.175246	.0455859	4.16	0.000	1.089085	1.268225
Gender						
Male	1.068348	.0283459	2.49	0.013	1.01413	1.125464
Non-binary/Other	.9487233	.0523601	-0.95	0.340	.8513139	1.057279
Race						
Asian	1.176352	.299117	0.64	0.523	.7141123	1.937798
Black or African American	.9626653	.0476041	-0.77	0.442	.873612	1.060796
Native American and Alaska Native	.9823498	.052967	-0.33	0.741	.8836905	1.092024
Pacific Islander and Hawaiian Native	1.110132	.0455127	2.55	0.011	1.024293	1.203165
Other	.9773819	.0311165	-0.72	0.473	.9181706	1.040412
Ethnicity						
Hispanic or Latino	1.013557	.025156	0.54	0.588	.9653604	1.06416
Part-time Work						
Part Time	.8589043	.0177295	-7.37	0.000	.8247975	.8944213
Metropolitan Area						
Logan	.8857835	.0515761	-2.08	0.038	.7901129	.9930385
Ogden-Clearfield	.9434763	.0215862	-2.54	0.011	.9020408	.9868152
Provo-Orem	1.044596	.0293285	1.55	0.121	.9885825	1.103782

St. George	.9291051	.027703	-2.47	0.014	.8762859	.9851081
Eastern Nonmetro	1.006511	.0654681	0.10	0.921	.8858654	1.143588
Central Nonmetro	.9849125	.0464206	-0.32	0.747	.8978786	1.080383
Provider License Type						
Commercial Pres.	.9456764	.0410868	-1.29	0.199	.8683678	1.029867
Exempt Center	1.150972	.0371343	4.36	0.000	1.080339	1.226224
School Age Prog.	1.07061	.0238241	3.07	0.002	1.024851	1.118412
FFN in Child's Home	.8828483	.1098576	-1.00	0.317	.691519	1.127115
FFN in Provider's Home	.9267619	.033921	-2.08	0.038	.8625118	.995798
Hourly Center	1.028694	.1318353	0.22	0.825	.7998914	1.322945
Licensed Family	.8766311	.0926855	-1.25	0.213	.7123314	1.078827
Out of School Time	1.351521	.1295213	3.14	0.002	1.119529	1.631585
Residential Certif.	.4317773	.0719808	-5.04	0.000	.3111618	.5991467
Occupation						
Custodian or Janitor	1.109965	.0513231	2.26	0.024	1.013656	1.215424
Driver	1.079969	.0410859	2.02	0.043	1.002257	1.163707
Administrative Assistant	1.074664	.0292412	2.65	0.008	1.01877	1.133624
Other Supporting Staff	1.116402	.029854	4.12	0.000	1.059311	1.17657
Constant	15.29648	.4514294	92.42	0.000	14.43552	16.20879