

COST OF QUALITY CARE STUDY

A Survey of Recipients, 2021

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1. Introduction

The purpose of the Cost of Quality Care Study is to determine the cost drivers for quality child care agencies.¹ The State of Tennessee's Department of Human Services (DHS) evaluates all child care agencies annually under the Quality Rating and Improvement System (QRIS) to identify agencies that exceed minimum licensing standards. Agencies that exceed minimum licensing standards earn one to three stars based upon quality indicators, with three stars indicating the highest quality.² All agencies receive and must post a report card, and agencies that earn one, two or three stars may elect to participate in the Star-Quality portion of the QRIS and earn bonus payments based on the rating earned. Indicators of quality child care include, but are not limited to, the level of professional development and educational degrees for directors and educators, status of accreditation, and ratio of children to educator. There are costs associated with meeting the standards for these indicators. The purpose of this study is to determine the cost drivers for providing quality care by exploring how costs vary across the spectrum of QRIS ratings.

2. Methodology

The Boyd Center for Business and Economic Research at the University of Tennessee worked with DHS to develop a survey instrument that collected financial and other operating information from a sample of identified agencies. The Boyd Center also partnered with Social Work Office of Research and Public Service (SWORPS) at the University to identify the sample and administer the survey. A copy of the survey instrument is included in the Appendix. We asked participating agencies about calendar year 2019 expenditures. To provide guidance, we linked specific expenditures to lines on IRS tax forms.

All agencies that participated in QRIS from Program Year (PY) 15 through PY18 are defined as the population for this study.³ From these, a final sample of 300 agencies is used. All agencies that received a star-rating from PY15 through PY18 were stratified into one of the following:

- Agencies that consistently received a 0 or 1-star rating;
- Agencies that consistently received a 2-star rating;
- Agencies that consistently received a 3-star rating; and
- Agencies with fluctuating star-ratings during this period

Depending on the number of agencies within each stratum, either all agencies or a quota-based sample from each stratum were invited to participate in the study. Quotas were developed to ensure adequate representation from child care centers, group homes, and family homes, from

¹ This report is in compliance with Section 658E(c)(4) of the Child Care and Development Block Grant (CCDBG) Act, 42 U.S.C. §9858c(c)(4).

² Participating centers can receive a rating of 0.

³ Program Year 15 runs from 10/1/2015-9/30/2016 and Program Year 18 runs from 10/1/2018-9/30/2019.

different age groups of enrollees, from each of the three Grand Divisions in Tennessee, and from rural and urban counties.

Based on the above criteria, SWORPS identified a representative sample of child care centers and invited those centers by email to participate in the web survey. Researchers at SWORPS administered the survey. Data collection took place between April – June 2021. Participating centers received a \$75 incentive for their participation. The child care centers participating in the study did so voluntarily, and we did not audit or verify any of the information reported. The Boyd Center provided technical assistance to agencies for completing the survey. Agencies needing help could call a help line or send an email requesting assistance. We also linked requested expenditures to specific line items on their federal income tax returns. However, readers should be cautioned that many of the reporting agencies are very small businesses that may classify expenditures differently than other agencies, and persons completing the survey are frequently not financial experts. We reviewed the data for reasonableness and internal consistency and excluded outliers and obviously erroneous data from some of the analyses presented below.

3. Sample

Our sample consists of 300 child care agencies, with 93 percent being independently operated; the remainder include agencies that are corporate owned, franchises, and head-start and other non-profit agencies. Further, our sample consists of 61.5 percent designated as a center (13+ children), 24.7 percent designated as a group home (8-12 children), and 13.7 percent designated as a family home (5-7 children). Hereafter we may refer to child care providers of any size as a center or agency, unless otherwise noted. The sample represents agencies across the three regions of Tennessee with approximately one-third from East, Middle, and West Tennessee, and roughly evenly split between rural and urban agencies.

We measure quality using the agency's star rating. Approximately 44 percent of our sample have a 3-star rating, 4 percent have a 2-star rating, and 12 percent have a 0-1 star rating. The remaining 40 percent have a fluctuating star rating (Figure 1). We also tabulate star rating by type of agency (Table 1) and by Grand Division (Table 2).

Of those consistently receiving a star rating (181 agencies), about 72 percent (131 agencies) are rated three stars. All agencies in Tennessee must meet minimum standards, and the QRIS identifies child care agencies that exceed those minimum standards. The QRIS encourages the highest performing agencies to opt into the Star Quality portion of the QRIS.

Figure 1: Star Ratings for the Sample (N=299)

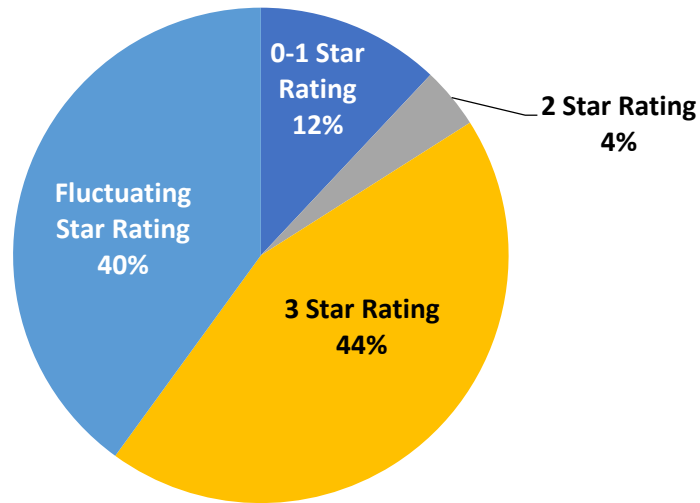


Table 1: Star Rating by Type of Agency (N=299)

STAR Rating	Child Care Agency Operated Independently		Child Care Agency is a Franchise		Child Care Agency Operation: Other	
	N	Percent	N	Percent	N	Percent
0 to 1 Star	32	11.5%	1	20.0%	2	11.8%
2 Star	14	5.1%	0	0.0%	0	0.0%
3 Star	118	42.6%	1	20.0%	12	70.6%
Rating Fluctuates	113	40.8%	3	60.0%	3	17.6%
TOTAL	277	100.0%	5	100.0%	17	100.0%

Table 2: Star Rating by Grand Division (N=298)

STAR Rating	East		Middle		West	
	N	Percent	N	Percent	N	Percent
0 to 1 Star	4	3.6%	21	20.2%	10	11.7%
2 Star	4	3.7%	5	4.8%	5	5.9%
3 Star	51	46.8%	36	34.6%	43	50.6%
Rating Fluctuates	50	45.9%	42	40.4%	27	31.8%
TOTAL	109	100.0%	104	100.0%	85	100.0%

As noted above, the sample includes agencies that participated in the QRIS during PY15-PY18, which correspond to calendar years 2016-2019 for purposes of this survey. If an agency was rated in multiple years and did not receive the same rating in all years, they are classified as “fluctuating” for this purpose. We tabulate these fluctuating agencies and their star ratings for each of the four program years PY15 – PY18 in Figure 2. These data are quite volatile. For example, some agencies progressed from 3 stars to 0 stars to 3 stars within the four-year reporting period. We only have financial data for a single year, 2019, and we cannot explain

these fluctuations and how they may relate to expenditures. We include these agencies in our analyses below by using the PY18 star rating.

Figure 2: Agencies with Fluctuating Ratings (PY15-PY18)

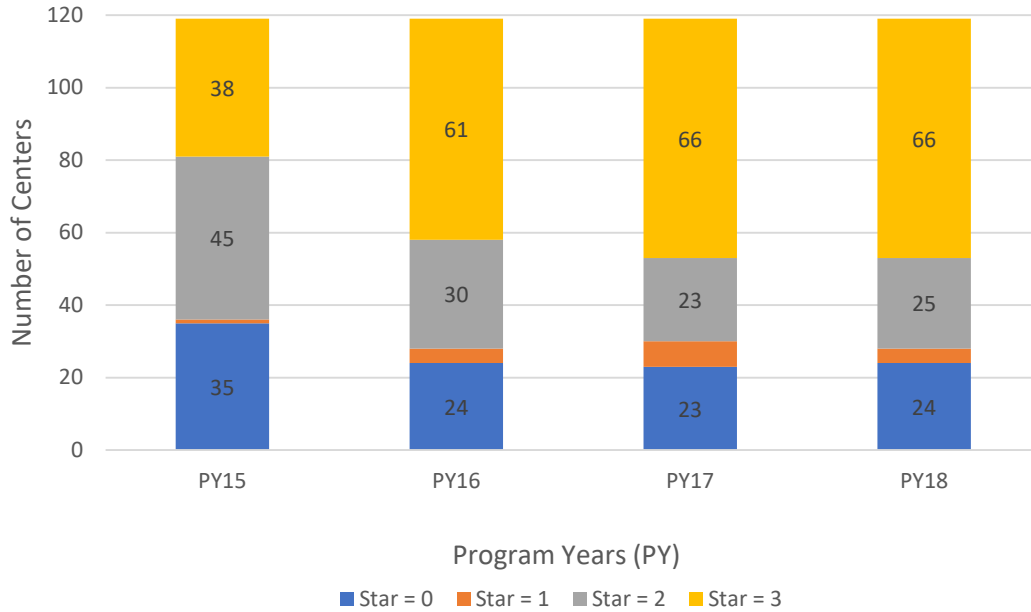
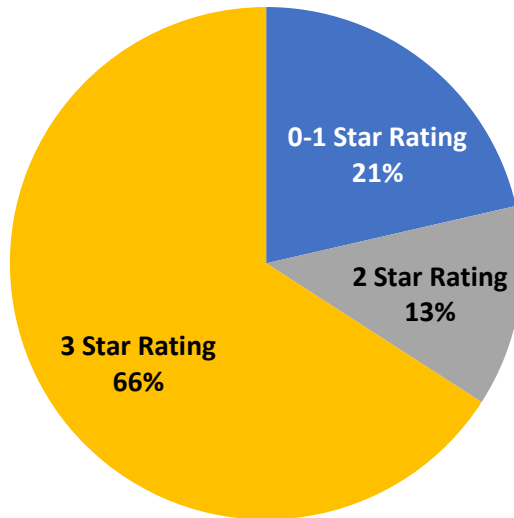


Figure 3 shows the distribution of star ratings for some of our analyses below when we combine the fluctuating agencies and their PY18 ratings with the rest of the sample. About two-thirds of this full sample received a 3-star rating.

Figure 3: Star Ratings for PY18 (N=299)



4. Expenditures

To better understand the key drivers of child care expenditures, we asked agencies to report total spending for 2019 in each of several categories. We provide the mean and median by category, and then present those totals on a per-enrolled child basis using each agency's reported average weekly enrollment during 2019 (See Table 3). The large differences in calculated mean and median values reflect the wide variation in number of children enrolled per reporting agency. For this sample total enrollment ranged from a low of 6 children to a high of 2,010 children. The median or midpoint enrollment is 31 children, with average (mean) enrollment of 55 children. Table 3 reports these amounts by ownership structure, but the amounts for franchises and other should be viewed with caution as there are few child care agencies in those categories. Approximately 93 percent of our sample reports being independently operated.

We ask respondents to report 2019 expenses for nine categories: total salaries, total benefits, rent, depreciation, food and supplies for children, educational supplies, transportation for children, training and development for teachers, and general liability insurance. We also request "total expenses," but the data reported for this category are not reliable and are excluded from the analyses below. For example, many agencies reported total expenses less than total reported salaries.

In Figure 4, we total the reported spending categories listed above, and present each category's share of that total. Salary expense is the largest cost for agencies, and on average, represents 57 percent of the total reported expenditures. In Table 3, we detail these expenditures providing per child averages by type of agency. Independently-operated agencies (approximately 93 percent of our sample) spend about \$7,300 per enrolled child per year, on average. Importantly, 47 agencies report paying no salaries; some of these agencies are operated as sole proprietorships and the owners-employees may pay themselves with profits, rather than salary, meaning the reported salary amounts are likely somewhat understated. Also, 131 agencies (44 percent of the sample) report no rent expense in 2019. Of this group, 88 agencies are personal residences and 35 report that their space is provided free of charge.

Next, we examine whether certain categories of expenses are correlated with quality. To do this, we divide the 2019 expense category for each agency by total enrollment to obtain a per child expenditure. We proxy for quality with the agency's star rating, and for agencies with a fluctuating rating, we use the latest rating reported for the agency. We find that salaries and benefits paid to officers and employees, and transportation expenses for children have a positive correlation with quality. We examine salaries paid to teachers and educators in more detail below. Depreciation expense has a negative correlation with quality, perhaps because spending on depreciable assets diverts funds from other uses such as teacher salaries that have a more direct impact on quality. All other correlations are too small to make meaningful conclusions (See Table 4).

While transportation expense is positively correlated with quality (see Table 4 below for a statistically significant correlation of .139), only 10 percent of our sample report any transportation expense in 2019, and nearly all of these reporting agencies have a 3-star rating.

We do not find a significant correlation between tuition assistance/professional development expenditures and quality. Approximately 40 percent of our surveyed agencies offer tuition assistance for staff professional training. Agencies also report how much they paid for training and professional development. About two-thirds of our sample report a positive expense for training and professional development, and the amount spent per child, on average, is \$57 per year. However, DHS provides a large amount of free training through TCCOTS/Pro Solutions, and child care agencies also provide training conducted by in-house personnel. These training activities do not generate additional reportable expenses, so the reported amount spent per child will generally understate all staff training and development activities.

Figure 4: Share Total Reported Expenditures by Category

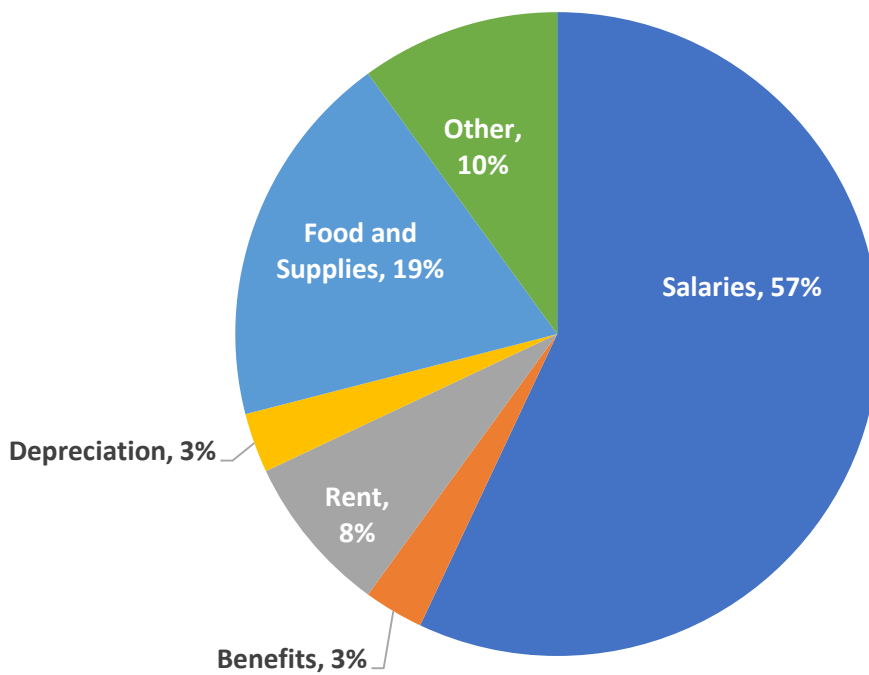


Table 3: Statistics for Key Expenditures in 2019

	Child Care Agency Operated Independently (n=277)			Child Care Agency is a Franchise (n=5)			Child Care Operation: Other (n=17)		
	Mean	Median	Per Child Average	Mean	Median	Per Child Average	Mean	Median	Per Child Average
Salaries paid to officers and employees	\$215,773	\$69,080	\$7,300	\$197,263	\$114,982	\$3,213	\$883,799	\$195,341	\$9,691
Benefits paid to officers and employees	\$8,585	\$0	\$138	\$27,726	\$26,453	\$204	\$270,773	\$31,290	\$3,292
Rent expense	\$18,088	\$3,000	\$462	\$45,132	\$30,000	\$1,108	\$115,490	\$14,400	\$2,079
Depreciation expense	\$4,896	\$0	\$192	\$18,760	\$25,000	\$461	\$33,994	\$530	\$453
Food and supplies for children	\$23,201	\$11,469	\$834	\$34,125	\$34,750	\$455	\$89,203	\$13,682	\$1,367
Educational supplies for children	\$8,214	\$3,200	\$334	\$9,150	\$7,800	\$140	\$53,321	\$4,750	\$1,112
Transportation expense for children	\$1,272	\$0	\$23	\$3,125	\$0	\$36	\$5,132	\$0	\$11
Training and professional development for teachers	\$2,107	\$650	\$57	\$8,567	\$6,884	\$113	\$12,325	\$1,992	\$230
Child care general liability insurance	\$10,242	\$1,647	\$368	\$15,325	\$14,500	\$209	\$5,557	\$3,579	\$82

Table 4: Correlation between STAR Rating and Expenses Per Child

2019 Expense Category	Correlation
Salaries paid to officers & employees	0.133 ***
Benefits paid to officers & employees	0.103 **
Rent expense	0.055
Depreciation expense	-0.139 ***
Food & supplies for children	0.027
Educational supplies for children	0.046
Transportation for children	0.139 ***
Training and professional development for teachers	0.073
Child care general liability insurance	0.051

Includes PY18 star rating for agencies with fluctuating ratings.

All expenses are scaled by total number of enrolled children.

****, ** are statistically significant at $p > .05$ and $.1$, respectively*

Table 5 below reports the midpoint of the salary range for teachers/educators only. For example, if the agency reports a minimum salary for teachers of \$16,000 and a maximum salary of \$20,000, we calculated the midpoint between those amounts, or \$18,000.

The midpoint amount paid per child care teacher/educator is fairly consistently around \$18,000 per year, plus or minus \$1,000 (with some exceptions noted below), and agencies rated 0 or 1 star and agencies rated 3 stars paid similar amounts per teacher. We do find more variation in total salaries paid to all staff when measured on a per child basis. Those rated 3 stars report spending nearly four times more per student as compared to agencies rated 0 or 1 star. The additional per student spending is reflected in smaller pupil to teacher ratios for the higher ranked centers versus higher salaries for staff.

Table 5: Total Salary and Benefit Expense by Star Rating

	Star Rating = 0-1				Star Rating = 3 Star			
	N	Mean	Median	Per Child Avg.	N	Mean	Median	Per Child Avg.
Midpoint salary for a teacher/ educator	64	\$18,327	\$18,100	N/A	195	\$17,743	\$18,583	N/A
Total salaries to all employees	64	\$86,133	\$53,340	\$2,638	195	\$331,946	\$100,000	\$9,822
Total benefits to all employees	64	\$3,198	\$0	\$70	195	\$32,865	\$0	\$428
Total Enrollment	64	30.7	19.0	N/A	195	55.3	31.0	N/A

Includes PY18 star rating for agencies with fluctuating ratings.

In addition to salaries, agencies may choose to pay employees with benefits. For our sample, benefits include paid vacation, paid sick leave, scholarships or discounts for staff’s children, and tuition assistance for professional development (Table 6). In almost all cases, agencies rated 3 stars are more likely to offer benefits than are agencies rated 0 or 1 star. Benefit categories with the biggest differences between 0-1 star and 3 star rated agencies include tuition assistance for professional development, scholarships/discounts for staff’s children, and retirement contributions.

Table 6: Staff Benefits by Star Rating

Staff Benefit	0 to 1 Star (N=64)		3 Star (N=197)	
	N	Percent	N	Percent
Paid vacation	45	70.30%	139	70.60%
Paid sick leave	26	40.60%	103	52.30%
Scholarships / discounts for staff's children	21	32.80%	100	50.80%
Tuition assistance for staff professional development	16	25.00%	96	48.70%
Health insurance benefits	9	14.10%	45	22.80%
Retirement contributions	3	4.70%	33	16.80%
None of the above listed staff benefits	14	21.90%	29	14.70%
Other benefits not listed above	2	3.10%	21	10.70%
Paid holidays	3	4.70%	11	5.60%
Bonus pay and/or gifts	3	4.70%	11	5.60%
Paid life insurance	1	1.60%	4	2.00%
Paid funeral leave	0	0.00%	2	1.00%
Paid personal day/birth	1	1.60%	0	0.00%

Includes PY18 star rating for agencies with fluctuating ratings.

We also separately analyze expenditures by rural versus urban agencies. Table 7 summarizes two key expenses – rent and salary. Because a small number of very large child care centers may distort the reported mean values, we focus our analysis on median salary and rent that will better reflect the typical rent paid. As expected, agencies located in urban counties, defined for this purpose as the 10 most populous counties in Tennessee, incur far higher rent expense than their rural counterparts. Median rent expense was roughly \$26,000 for urban agencies versus \$12,000 for rural agencies. For the entire sample, the midpoint median salary for teachers was higher in urban counties, but only moderately (\$18,790 urban versus \$18,053 rural).

Table 7: Expenditures - Urban Versus Rural

	Urban					Rural				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
Midpoint salary range for a teacher	144	\$19,146	\$18,790	\$0	\$82,500	152	\$17,023	\$18,053	\$0	\$46,532
Rent expense	86	\$46,986	\$25,979	\$1,120	\$360,377	70	\$39,237	\$12,000	\$1	\$1,205,256
Total Enrollment	145	64.0	35.0	0	1,834	153	32.6	24.0	0	168

URBAN: Davidson, Hamilton, Knox, Montgomery, Rutherford, Shelby, Sullivan, Sumner, Williamson, Wilson Includes PY18 star rating for agencies with fluctuating ratings.

The reported midpoint salary by Grand Division shows interesting regional trends (Table 8). In East Tennessee, median midpoint salary is slightly higher for rural agencies than it is for urban agencies. In Middle Tennessee, however, salaries are more than \$5,000 per year higher in urban agencies than in rural agencies, \$22,500 versus \$17,160, respectively. Note, in the table below we include the weekly tuition data for one age group (Age 2) to provide context for the reported salary figures.

Table 8: Expenditures by Grand Division

	Urban					Rural				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
East Tennessee										
Midpoint annual salary range for a teacher	55	\$18,517	\$18,200	\$0	\$82,500	54	\$19,137	\$19,250	\$0	\$42,500
Total Enrollment	55	63.0	41.0	4	777	54	35.6	32.0	0	150
Age 2, weekly full-time tuition rate	55	\$157	\$165	\$0	\$300	54	\$126	\$137	\$0	\$255
Middle Tennessee										
Midpoint annual salary range for a teacher	41	\$21,004	\$22,500	\$0	\$44,250	61	\$16,176	\$17,160	\$0	\$46,532
Total Enrollment	42	53.7	25.5	0	400	62	29.5	18.0	0	168
Age 2, weekly full-time tuition rate	42	\$137	\$150	\$0	\$340	62	\$102	\$110	\$0	\$195
West Tennessee										
Midpoint annual salary range for a teacher	48	\$18,280	\$18,260	\$0	\$50,000	37	\$15,337	\$17,627	\$0	\$35,884
Total Enrollment	48	74.1	23.5	0	1,834	37	33.3	25.0	3	124
Age 2, weekly full-time tuition rate	48	\$145	\$154	\$0	\$258	37	\$108	\$110	\$0	\$256

Impact of Enrollment Size on Quality

As a child care agency enrolls more children, it may take advantage of economies of scale and these advantages may ultimately translate to higher ratings for the larger agencies. To examine the impact of enrollment size on quality, we divided reporting agencies into three size categories: Small Agency = 6 to 25 children (n=136), Medium Agency = 26 to 75 children (n=108), and Large Agency = more than 75 children (n=36). We show the frequencies and star ratings for these size categories below and note that we omitted observations where enrollment was not reported or where expense amounts were outliers. (Table 9)

Table 9: Enrollment Categories

STAR Rating	Small (25 or fewer children)		Medium (26 to 75 children)		Large (more than 75 children)	
	N	Percent	N	Percent	N	Percent
0 to 1 Star	33	24.3%	21	19.4%	7	19.4%
2 Star	17	12.5%	17	15.7%	2	5.6%
3 Star	86	63.2%	70	64.8%	27	75.0%
TOTAL	136	100.0%	108	100.0%	36	100.0%

Includes PY18 star rating for agencies with fluctuating ratings.

Excludes agencies where enrollment was not reported.

Excludes agencies with outlier expense amounts.

A greater percentage of the large agencies have 3 stars, but we do not find that star ratings are statistically correlated with total enrollment (as a continuous variable) or enrollment categories as defined in Table 9 above. However, we present key spending categories by size and star rating in Table 10 below.

For the small agencies, the total of salary plus benefits per child is very similar for the agencies with a 0-1 star rating versus those with 3 star ratings (\$2,768 versus \$2,626, respectively).⁴ Interestingly, the higher rated agencies paid less per child in total salary plus benefits and reported a lower midpoint salary for educators. However, 3-star agencies spent over four times as much per child on training expenses than the 0 and 1 rated agencies (\$132 per child versus \$30 per child).

Medium size agencies rated 3 stars paid significantly more salary and benefits per child than lower rated agencies (\$4,552 versus \$2,591 per child) but spent roughly the same per child on training (\$45 versus \$41 per child).

⁴We combine per child salary of \$2,724 and per child benefits of \$44 to equal the \$2,768 combined amount for 0-1 star agencies. We combine per child salary of \$2,509 and per child benefits of \$177 to equal the \$2,626 combined amount for 3 star agencies. We performed similar calculations for medium and large agencies.

Large agencies rated 3 stars also spent more per child on salary and benefits than agencies rated 0 or 1 star (\$3,785 versus \$2,805 per child), and similar amounts per child on training (\$37 versus \$27 per child).

Overall, agencies rated 3 stars spent more per child on salary and benefits than those rated 0-1 stars. We also find that large and medium agencies paid more per child in salary and benefits than smaller agencies. We should note, however, that an involved owner may not be paid any salary (compensation of the owner(s) may be through distribution of net profits), and this may have a larger per child impact on reported salary of smaller agencies versus larger ones.

Table 10: Selected Expenditures by Star Rating and Enrollment Size

Small Agencies (total enrollment < 26 children)						
	0 to 1 STARs (N=33)			3 STARs (N=86)		
	Mean	Median	Per Child Average	Mean	Median	Per Child Average
Total salaries paid to officers and employees	\$34,722	\$32,636	\$2,724	\$31,555	\$17,254	\$2,509
Total benefits paid to officers and employees	\$918	\$0	\$44	\$1,305	\$0	\$117
Midpoint annual salary range for a teacher	\$15,887	\$16,538	N/A	\$13,094	\$14,500	N/A
Training and professional development for teachers	\$342	\$250	\$30	\$2,008	\$400	\$132
Medium Agencies (26 to 75 total enrollment)						
Total salaries paid to officers and employees	\$100,112	\$93,515	\$2,512	\$221,486	\$175,525	\$4,345
Total benefits paid to officers and employees	\$3,096	\$0	\$79	\$11,392	\$0	\$207
Midpoint annual salary range for a teacher	\$19,707	\$19,469	N/A	\$19,999	\$19,730	N/A
Training and professional development for teachers	\$1,476	\$945	\$41	\$2,333	\$1,055	\$45
Large Agencies (more than 75 total enrollment)						
Total salaries paid to officers and employees	\$256,275	\$162,366	\$2,623	\$368,325	\$365,426	\$3,594
Total benefits paid to officers and employees	\$17,663	\$14,480	\$182	\$37,878	\$3,360	\$191
Midpoint annual salary range for a teacher	\$24,714	\$23,000	N/A	\$22,121	\$20,800	N/A
Training and professional development for teachers	\$2,584	\$1,200	\$27	\$3,613	\$1,884	\$37

Calculations include PY18 star rating for agencies with fluctuating ratings but exclude outlier expense amounts.

For some child care agencies, volunteer hours are a significant source of labor. To see if the number of volunteer hours had a significant effect on quality, we expressed total volunteer hours for the year on a per child basis and compared that result for agencies rated 0 or 1 star versus those rated 3 stars. For those agencies that reported any volunteer labor, the lower rated agencies relied more heavily on volunteer labor than those rated three stars, although the median number of volunteer hours for both groups was less than 10 hours per year, per

child (See Table 11). Mean voluntary hours are much greater than median, suggesting a small number of agencies benefit from a significant amount of labor from unpaid volunteers.

Table 11: Volunteer Hours Per Child by Star Rating

	Rating = 0 or 1 STARS					Rating = 3 STARS				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
Volunteer hours per child	12	26.6	9.2	0.2	133.3	57	24.7	4.0	0.0	266.7

Includes PY18 star rating for agencies with fluctuating ratings.

5. Tuition

We also examine weekly tuition fees to gain a better understanding of the relation between tuition and quality. Table 12 presents descriptive statistics for tuition for the various age group for agencies that received 0 or 1 star compared to agencies that received 3 stars. We focus on median reported tuition. In most age groups parents are charged more per child in the higher rated agencies, but the differences are often small and in some age groups, agencies rated 3 stars charge less than agencies rated 0 or 1 star. We do not find that tuition is significantly correlated with quality.

Table 12: Weekly Tuition Per Child by Age and by Star Rating

AGE GROUP	Rating = 1 (0 or 1 STARS)					Rating = 3 (3 STARS)				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
Infants	28	\$391	\$143	\$10	\$2,800	75	\$616	\$221	\$0	\$13,709
Toddlers	32	\$285	\$159	\$30	\$1,667	99	\$489	\$167	\$0	\$13,709
Age 2 years	34	\$244	\$159	\$30	\$1,667	112	\$514	\$157	\$0	\$27,418
Age 3 years	40	\$177	\$106	\$24	\$1,000	123	\$365	\$125	\$0	\$9,139
Age 4 years	40	\$219	\$150	\$18	\$2,500	118	\$436	\$116	\$0	\$18,278
Age 5 years	30	\$289	\$150	\$31	\$2,500	82	\$710	\$183	\$11	\$27,418
School-age	21	\$257	\$100	\$5	\$1,667	51	\$244	\$100	\$0	\$2,090

Includes PY18 star rating for agencies with fluctuating ratings.

6. Impact of COVID

COVID had a large impact on child care agencies in Tennessee. Roughly two thirds of the sample reported shutting down at some point during 2020 because of COVID restrictions. For those reporting closure, agencies in urban counties were shut down for two weeks longer, on average, than those located in rural counties. A few urban agencies reported being closed more than 6 months (Table 13).

The State of Tennessee issued COVID-related guidelines that applied to 89 of 95 counties. Six counties with independent health departments (Davidson, Hamilton, Knox, Madison, Shelby and Sullivan) issued county specific guidelines for COVID-related restrictions. Agencies in the state’s most populous counties (Knox, Davidson, Shelby and Hamilton) report being shut down for COVID for about 2 weeks longer than the rest of the state, on average (not tabulated).

Table 13: Average Number of Weeks Closed

	Urban			Rural		
	N	Mean	Max	N	Mean	Max
Approximately how many weeks were you closed due to COVID?	94	9	58	102	7	24

About half of all agencies report that their overall enrollment decreased in 2020 versus 2019, and about half of those reported their enrollment fell by more than 25 percent. Thirty-five percent of agencies report no significant change in enrollment, with 12 percent reporting an increase (Table 14a)

Not surprisingly, more than half of our sample report a decrease in revenue for 2020 versus 2019. However, only 16 percent report a decrease in operating costs, while 53 report that their operating costs increased (Table 14a). In Table 14b we focus on child care centers negatively impacted by COVID – specifically, centers that saw a decrease in enrollment and revenues and an increase in operating costs. About half of this sample report at least a 25 percent decrease in enrollments and revenues, and 24 percent of our sample report at least a 25 percent increase in operating costs (Table 14b). The combination of lower revenues with increased operating costs created financial difficulty for a large number of agencies. Some of this shortfall was made up with grants and subsidies (discussed below).

Table 14a: Changes in Enrollments, Revenues and Operating Costs for 2020 Compared with 2019

	Enrollment		Revenue		Operating Costs	
	N	Percent	N	Percent	N	Percent
Decreased	159	53.0%	157	52.3%	49	16.3%
Increased	36	12.0%	47	15.7%	159	53.0%
About the same (plus/minus 5%)	105	35.0%	96	32.0%	92	30.7%
	300	100.0%	300	100.0%	300	100.0%

Table 14b: Percentage Changes in Enrollments, Revenues and Operating Costs for 2020 Compared with 2019 for Child Care Centers Negatively Impacted by COVID

	Enrollments		Revenues		Operating Costs	
	N	Percent Decrease	N	Percent Decrease	N	Percent Increase
5-15% change	43	27.0%	43	27.6%	59	37.1%
16-25% change	35	22.0%	43	27.6%	62	39.0%
More than 25% change	81	50.9%	70	44.9%	38	23.9%
	159	100.0%	156	100.0%	159	100.0%

The state and federal government provided financial assistance to child care providers impacted by COVID. The two main sources of grant money were the DHS Disaster Relief funding and the federal Payroll Protection Plan funding. We asked agencies to combine all COVID related funding into a single amount, presented below on a per-child basis (Table 15). The range was very large, with some agencies reporting nearly \$30,000 per child. On a median basis, which is a likely more useful measure than mean or amounts on the extremes, the higher rated agencies received nearly double the amount per child (\$1,000) versus those rated 0 or 1 Star (\$517). Rural and urban agencies received roughly the same amount in COVID-19 grants and other assistance per child (Table 16).

Table 15: COVID-Related Funding Per Child by Star Rating

	Rating = 1 (0 or 1 STARs)					Rating = 3 (3 STARs)				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
Grant amount per child	42	\$1,004	\$517	\$118	\$4,513	143	\$1,815	\$1,000	\$30	\$29,032

Includes PY18 star rating for agencies with fluctuating ratings.

Table 16: COVID-Related Funding Per Child for Urban and Rural Counties

	Urban					Rural				
	N	Mean	Median	Min	Max	N	Mean	Median	Min	Max
Grant amount per child	96	\$1,322	\$828	\$30	\$6,597	109	\$1,591	\$900	\$56	\$22,972

Includes PY18 star rating for agencies with fluctuating ratings.

7. Conclusion

We examined 300 child care agencies from across the state of Tennessee from a population of agencies that participate in the Quality Rating and Improvement System (QRIS). We asked survey respondents to provide financial and other information about their operations to examine the relationship between expenditures and quality, as reflected by star rating. As described more fully above, this presents a number of practical difficulties. Many child care providers are home-based businesses that provide care to a small number of children. Other agencies are associated with non-profits and receive free or heavily subsidized rental space and other operational support. Furthermore, many respondents are unsophisticated in financial matters and may not categorize expenditures consistent with other agencies or our expectations. Other respondents provided data that are internally inconsistent or clearly erroneous. The data are not audited or otherwise verified and we can only analyze what is reported on the surveys. All of these factors make drawing firm conclusions about the relationship between costs and quality difficult and might obscure trends that do exist.

However, we present a number of interesting findings, and the relationships that are evident in the data are consistent with expectations in a number of cases. The number of employees per child, and their qualifications are key indicators of quality and are prominent factors in the QRIS. As expected, the agencies rated 3 stars pay far more in salary and in benefits per child than agencies rated 0 or 1 stars. The higher payroll overall will reflect a higher teacher/student ratio, more qualified teachers and staff that command greater pay and benefits, and/or both.

We also find that other employment indicators are associated with quality. Child care agencies rated 3 stars are more likely to provide their employees with health insurance, a retirement plan, tuition scholarships/discounts for employees' children, tuition assistance for staff professional development, and paid sick leave. Both groups provide paid vacation at similar levels (around 70 percent of all agencies offer paid vacation).

On the other hand, we do not observe large differences in reported midpoint salary ranges by star rating, indicating a competitive state-wide employment market for many child care employees. The data show that agencies located in urban counties, and higher cost of living areas such as in the Nashville metropolitan region, offer higher salaries to attract the needed employees.

Depreciation is negatively correlated with quality, suggesting that as agencies spent more on buildings and other depreciable assets, the organizations were able to devote fewer resources to employees, educational supplies and other items more directly associated with quality child care. However, rent expenditures per child were not correlated with quality, perhaps because of the large number of agencies that are sited in personal residences or households that do not pay rent to owners, or agencies associated with other organizations such as churches that receive heavily subsidized or free rent.

Unfortunately, we are unable to find that other expenses were correlated with quality. This is likely partly due to the poor quality and inconsistency of the financial data discussed above, but may reflect the dominant impact that the skills, compensation levels, and number of child care workers per child have on child care quality.

8. Appendix

If you should encounter any problems with the survey link, please contact Linda Daugherty at 1.888.883.5514. If you have questions about how to find or calculate the information requested, please email costhelp@utk.edu or call 1-833-714-0712 and leave a message. Someone from the Boyd Center will return your email/call within 48 hours.

We would like to begin by asking a few questions about the ownership and structure of the child care agency.

- 1) Is the child care center operated independently or is it part of a franchise?
 - a) Operated independently (if part of a church or other religious institution, the center is considered independent)
 - b) Franchise
 - c) Other

- 2) Is the space where the child care agency operates owned, rented or leased, or the space provided free of charge?
 - a) property is owned or operating out of personal residence
 - b) property is rented or leased.
 - c) property is provided free of charge
 - d) Other. Please explain. _____

- 3) If property is rented or leased and the child care agency is associated with a church or other charity, is the rent charged to the child care agency:
 - a) Market rate or
 - b) Reduced rate

Next, we would like to ask a couple of questions about the revenue for this child care agency.

- 4) What were the 2019 **WEEKLY** rates for each of the following age groups? Please report the unsubsidized rate if you receive subsidies. Enter a 0 if the agency did not offer child care for a particular age group.

If the rate is only available as a monthly or daily rate, please convert it to a FT-Weekly rate using the formula provided below. Full-time = 20 or more hours per week; Part-time = less than 20 hours per week.

Age Group	Full-time	FT – Monthly (divide by 4.33 to convert to weekly)	FT – Daily (multiply by 5 to convert to weekly)	Part-time
Infants	\$	\$	\$	\$
Toddlers	\$	\$	\$	\$
Age 2	\$	\$	\$	\$
Age 3	\$	\$	\$	\$
Age 4	\$	\$	\$	\$
Age 5	\$	\$	\$	\$
School-age (before/after school)	\$	\$	\$	\$
School-age summer	\$	\$	\$	\$

Next, we would like to ask some questions about total expenses from 2019. We ask these amounts so we can better understand the costs necessary to deliver quality child care in Tennessee, and to identify changes over time. Your responses will be combined with those from many other child care agencies and will remain confidential.

We begin by asking you for the type of return filed so we can help you use your tax return to easily find the amounts requested. If you would rather use your internal financial reporting system to find the requested amounts, that is also acceptable.

- 5) In 2019 (or the most recent tax filing) we filed:
- IRS Form 1120
 - IRS Form 1120S
 - IRS Form 990
 - IRS Form 1040
 - IRS Form 1065
 - I do not know which form is filed, and/or I prefer to use my financial system.

Refer to your 2019 (or most recently filed) tax return for the following questions:

- 6) What were total salaries paid to officers and employees in 2019? _____

- If you file IRS Form 1120 as corporation, total the amounts listed on Page 1, lines 12 and 13.-
- If you file IRS Form 1120S as an S-corporation, total the amounts listed on Page 1, lines 7 and 8.
- If you file IRS Form 990 as not for profit, total the amounts listed on Page 10, Part IX, lines 5 and 7.
- If you are individually owned (i.e., sole proprietorship) and file IRS Form 1040, provide the amount on Schedule C, line 11.
- If you file IRS Form 1065 as a partnership, total the amounts listed on Page 1, lines 9 and 10.

7) What were total benefits paid in 2019? Benefits should include amounts paid for employer-provided health insurance and retirement contributions. _____

- If you file IRS Form 1120 as corporation, total the amounts listed on Page 1, lines 23 and 24.
- If you file IRS Form 1120S as an S-corporation, total the amounts listed on Page 1, lines 17 and 18.
- If you file IRS Form 990 as not for profit, total the amounts listed on Page 10, Part IX, lines 8 and 9.
- If you are individually owned (i.e., sole proprietorship) and file IRS Form 1040, provide the amount on Schedule C, line 14.
- If you file IRS Form 1065 as a partnership, total the amounts listed on Page 1, lines 18 and 19.

8) What was the total rent expense paid in 2019? _____

- If you file IRS Form 1120 as corporation, provide the amount listed on Page,1 line 16.
- If you file IRS Form 1120S as an S-corporation, provide the amount listed on Page 1, line 11.
- If you file IRS Form 990 as not for profit, provide the amount listed on Page 10, Part IX, line 16.
- If you are individually owned (i.e., sole proprietorship) and file IRS Form 1040, enter N/A.
- If you file IRS Form 1065 as a partnership, provide the amount listed on Page 1, line 13.

9) What was the total depreciation expense in 2019? _____

- If you file IRS Form 1120 as corporation, provide the amount listed on Page,1, line 20.
- If you file IRS Form 1120S as an S-corporation, provide the amount listed on Page 1, line 14.
- If you file IRS Form 990 as not for profit, provide the amount listed on Page 10, Part IX, line 22.
- If you are individually owned (i.e., sole proprietorship) and file IRS Form 1040, provide the amount on Schedule C, line 13.
- If you file IRS Form 1065 as a partnership, provide the amount listed on Page 1, line 16a.

10) What were total expenses/deductions in 2019? _____


- If you file IRS Form 1120 as corporation, provide the amount listed on Page,1, line 27.
- If you file IRS Form 1120S as an S-corporation, provide the amount listed on Page 1, line 20.
- If you file IRS Form 990 as not for profit, provide the amount listed on Page 10, Part IX, line 25.
- If you are individually owned (i.e., sole proprietorship) and file IRS Form 1040, provide the amount on Schedule C, line 28.
- If you file IRS Form 1065 as a partnership, provide the amount listed on Page 1, line 21.

We would also like to know some information about certain expenses that are not specifically referenced on your tax return.

11) How much was paid for the following categories of expenses in 2019? If you do not know the exact amount, an estimate is fine.

Expenses	Amount paid in 2019
Food and supplies (paper towels, utensils) for children	\$
Educational supplies for children	\$
Transportation expenses for children	\$
Training and professional development for teachers	\$
Childcare General Liability Insurance	\$

12) Which of the following utilities is the child care agency responsible for paying? [CHECK ALL THAT APPLY]

1. Electricity
2. Gas
3. Water and sewage
4. Telecommunications (phone, internet, and television)
5. Utilities are included in the rent or lease
6. Utilities are not paid directly  Who is responsible for the utilities? _____

13) **IF THE CHILD CARE AGENCY DOES NOT PAY UTILITIES DIRECTLY** About what portion of the building is used by the child care agency? Would you estimate it to be one-tenth, one-fourth, or one-half, or some other amount? _____

14) What benefits are paid by the child care agency for staff members? PLEASE CHECK ALL THAT APPLY

1. Health insurance
2. Retirement contributions
3. Scholarship and/or staff discount for their children
4. Tuition assistance for professional development
5. Paid vacation
6. Paid sick leave
7. Other – please specify type
8. None of the above

Now we would like to ask some questions about the agency’s capacity and enrollment in 2019.

15) What was your typical enrollment and capacity during the 2019 school year for each of the following age groups? Enter “zero” if there were no enrollments/vacancies or you did not serve that age range.

Age Group	2019 Enrollment	2019 Capacity
Infants		
Toddlers		
Age 2		
Age 3		
Age 4		
Age 5		
School-age		

16) At your normal operating enrollment, how many full-time equivalent teachers/educators did you employ in 2019? _____

17) An individual annual salary for a teacher/educator ranged from \$_____ to \$_____ in 2019.

18) If you used volunteers or other unpaid workers in 2019, estimate the total hours worked by these unpaid workers during 2019. _____

Last, we would like to ask a few questions about your agency during the COVID-19 pandemic.

19) Were you closed down at any point during 2020 due to COVID-19 pandemic?

- a) Yes
- b) No

20) If yes, approximately how many weeks were you closed due to COVID? _____ weeks.

21) In the months you were open in 2020, did your enrollments decrease, increase, or remain about the same?

- a. Our enrollments decreased.
- b. Our enrollments increased.
- c. Our enrollments remained about the same (plus or minus 5%).

22) Which of the following statements best describes your decreased enrollments during the COVID-19 pandemic?

- a) Our enrollments were 5-15% lower in 2020, compared to 2019.
- b) Our enrollments were 16-25% lower in 2020, compared to 2019.
- c) Our enrollments were more than 25% lower in 2020, compared to 2019.

- 23) Which of the following statements best describes your increased enrollments during the COVID-19 pandemic?
- Our enrollments were 5-15% higher in 2020, compared to 2019.
 - Our enrollments were 16-25% higher in 2020, compared to 2019.
 - Our enrollments were more than 25% higher in 2020, compared to 2019.
- 24) Did your total revenues during the COVID-19 pandemic decrease, increase, or remain the same?
- Our revenues decreased.
 - Our revenues increased.
 - Our revenues remained the same (plus or minus 5%).
- 25) Which of the following statements best describes your decreased total revenues during the COVID-19 pandemic?
- Our revenues were 5-15% lower in 2020, compared to 2019.
 - Our revenues were 16-25% lower in 2020, compared to 2019.
 - Our revenues were more than 25% lower in 2020, compared to 2019.
- 26) Which of the following statements best describes your increased total revenues during the COVID-19 pandemic?
- Our revenues costs were 5-15% higher in 2020, compared to 2019.
 - Our revenues costs were 16-25% higher in 2020, compared to 2019.
 - Our revenues were more than 25% higher in 2020, compared to 2019.
- 27) Did your total operating costs during the COVID-19 pandemic decrease, increase, or remain the same?
- Our operating costs decreased.
 - Our operating costs increased.
 - Our operating costs remained the same (plus or minus 5%).
- 28) Which of the following statements best describes your decreased total operating costs during the COVID-19 pandemic?
- Our operating costs were 5-15% lower in 2020, compared to 2019.
 - Our operating costs were 16-25% lower in 2020, compared to 2019.
 - Our operating costs were more than 25% lower in 2020, compared to 2019.
- 29) Which of the following statements best describes your increased total operating costs during the COVID-19 pandemic?
- Our operating costs were 5-15% higher in 2020, compared to 2019.
 - Our operating costs were 16-25% higher in 2020, compared to 2019.
 - Our operating costs were more than 25% higher in 2020, compared to 2019.

30) Did you receive any grant or loan funding offered due to the COVID-19 pandemic? If yes, check all that apply.

- a) Yes
 - DHS/Disaster Recovery Grant
 - Federal Payroll Protection Program
 - Other grant/loan _____
- b) No

31) If yes, how much total funding did you receive? If you do not know the exact amount, an estimate is fine. \$_____

Thank you very much for your assistance. Please provide the name and contact information for the person we should speak to if we have questions about the responses. _____

Please indicate if you would prefer the \$75 Amazon gift card be sent to you electronically or through the postal service.

- 1. Electronically
- 2. Postal service. Please provide the address. _____

Approved by the Department of Human Services May 25, 2022.