

Parents, Are You Getting Your Money's Worth at Your Childcare Center?

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ABSTRACT

Background

Historically, mothers were the primary caregiver and were expected to stay at home to care for their child. In today's society, there is an increasing trend of dual-earner families where both individuals contribute to the household income. This created a demand for childcare services such as preschools, childcare centers, and family daycare homes. Due to the high demand, a majority of parents had difficulty obtaining childcare services and it brought into question whether parents are still able to fully assess each available childcare centers' quality and cost, or if they are forced to select any center with available space. Additionally, considering its high demand, it's uncertain whether centers are still providing high quality care at their price points. This study investigated if the cost of childcare at licensed childcare facilities in cities and districts under the jurisdiction of Vancouver Coastal Health (VCH) align with their structural qualities of care.

Methods

Structural qualities of care (represented by the number of total violations) and the cost of childcare were analyzed in this study. Secondary data was obtained online —VCH's Inspection Reports Website for the number of total violations and the childcare facilities' website or inquiries through email for the cost of childcare. The obtained data were analyzed through three statistical tests to determine the following: if there was a correlation between the two variables, if there was a significant difference between the number of violations in three different price groups, and if there was a significant difference between the number of violations and participation in a subsidy program.

Results

There was no correlation between structural qualities of care and the cost of childcare and no significant difference between the number of violations and participation in a subsidy program. However, there was a difference in the number of violations in the three different price groups: the number of violations in the moderate price group was higher than the high and low price groups, and there were no difference between high and low price groups.

Conclusion

The findings from this study determined that the cost of childcare was not correlated to the childcare facilities' structural qualities of care. This means that there were no difference in the structural qualities of childcare provided by facilities that were more expensive or less expensive.

Keywords: *childcare, childcare center, cost, quality, structural quality, violation, inspection*

INTRODUCTION

Raising children is a difficult task and it's even more challenging when parents encounter obstacles (Elsey et al., 2020), such as financial hardships and childcare shortages. Historically, mothers were the primary caregiver (Xhaho et al., 2022) and expected to stay at home to care for the child. In today's society, there is an increasing trend of dual-earner families (Uppal, 2015) where both individuals contribute to the household income. In 2014, Statistics Canada reported that 69% of couple families with at least one child under the age of 16 were dual earners and 75% of this group had two parents in full-time employment (Uppal, 2015). This created a demand for childcare services such as preschools, childcare centers, and family daycare homes.

In 2020, Statistics Canada reported that 54.6% of children in British Columbia (BC) and 49.2% of children in Canada were in childcare (Statistics Canada, 2021). The availability of childcare services allowed mothers to return to the workforce and was associated with higher labour force participation (Kingsbury & Findlay, 2021). In 2022, 57% of parents reported having difficulty finding childcare in their community and 46% had difficulty finding affordable care (Statistics Canada, 2022a). This affected parents' ability to work because they were not

able to find childcare centers for their children. In fact, 38% of parents reported having to alter their work schedule, 37% reported working fewer hours, and 33% reported paying more than they wanted (Statistics Canada, 2022a). The demand for affordable, high quality childcare options is greater than ever. However, due to the shortages it brings into question whether parents are still able to fully assess each available childcare centers' quality and cost, or if they are forced to select any center with available space. Additionally, considering its high demand, it's uncertain whether centers are still providing high quality care at their price points.

LITERATURE REVIEW

Definition of childcare quality

Children, parents, childcare workers, and researchers all have different definitions for childcare quality. For researchers, childcare quality is defined by objective standards and focuses on structural and process qualities such as staff-child ratios and staffs' responsiveness to children (Ceglowski & Bacigalupa, 2002). Parents define childcare quality by their perceptions of the childcare centers such as the flexibility of the program and the staffs' responsiveness to their family needs (Ceglowski & Bacigalupa, 2002). Staff may define it by administrative or parental relationships (Ceglowski & Bacigalupa,

2002). Lastly, children may define it by their level of comfort and acceptance and their engagement in the activities (Ceglowski & Bacigalupa, 2002). Although there are four different definitions, the one used most frequently in childcare studies and in policies is the definition by researchers: childcare quality is composed of structural and process aspects (Garon-Carrier, 2018). Structural qualities include group composition, space and physical environment, staff qualifications, and working conditions (Garon-Carrier, 2018). Group composition, such as staff-child ratio and group size, was associated with better children outcomes (Garon-Carrier, 2018) possibly because having lower staff-child ratios and smaller group sizes allowed children to have individual attention and interaction with the staff. Process qualities include staff-child interactions, parent-staff communication, age-appropriate curricula, and children's positive learning and emotional well-being. Structural quality is measured by checklists, interviews, and questionnaires whereas process quality is by close observation of childcare routines over a long period of time (Garon-Carrier, 2018). The two aspects of childcare quality are related in that structural qualities are components that can create conditions for good process qualities (OECD, 2022).

Childcare quality affects child development and outcomes

The experiences and interactions during the first three years of a child's life are very important because it can significantly affect brain development and creates a foundation for future learning (Workman & Ullrich, 2017). Numerous studies (Bratsch-Hines et al., 2020; Center on the Developing Child at Harvard University, 2007; Kingsbury & Findlay, 2021; NICHD, 2006; NICHD Early Child Care Research Network, 1999; Shernoff, 2010; Workman & Ullrich, 2017) have shown that childcare quality affected child development and outcomes and that enrollment in higher quality childcare programs were associated with more positive outcomes compared to those in lower quality childcare (NICHD, 2006).

Past research examined the relationship between structural quality and child development and outcomes (Center on the Developing Child at Harvard University, 2007; NICHD Early Child Care Research Network, 1999). These studies showed that staff-child ratios, group sizes, staff training and education had a positive association with child development (Center on the Developing Child at Harvard University, 2007; NICHD Early Child Care Research Network, 1999). In fact, there were better child outcomes when standards for staff-child ratios and staff

training/education were met at age 24-months and 36-months, respectively (NICHD Early Child Care Research Network, 1999). Process qualities were also associated with better child development and outcomes. Positive caregiving (a type of process quality) was revealed as the strongest predictor of child development (NICHD, 2006). This quality involved frequent staff-child interactions, expressing a positive attitude, and encouraging the child's engagement in activities. Verbal staff-child interactions were positively associated with the children's 36-month language skills which could lead to better academic and social skills in the future (Bratsch-Hines et al., 2020). Having age-appropriate activities and stimulating materials, such as toys and books, also had a positive impact on child development.

Cost of childcare in Canada

According to the World Economic Forum, Canada was placed ninth on a list of countries with the most expensive childcare in 2019 (Fleming, 2019). The median monthly toddler fees in 2019 were \$1457 in Toronto, \$1112 in Vancouver, and \$179 in Quebec City (Macdonald & Friendly, 2020). In 2020, the median monthly toddler fees were \$1578 in Toronto, \$1165 in Vancouver, and \$181 in Quebec City (Department of Finance Canada, 2021). Childcare in Canada was already expensive, but with the increased price, it may

cause parents to struggle even more to cover these expenses while trying to obtain high quality care for their children.

Studies had mixed results on whether a correlation existed between quality of care and cost of childcare. Most facilities met the minimum regulatory requirements for a childcare facility (Workman, 2021). Some governments may provide incentives and additional resources to encourage facilities to meet quality standards, such as process qualities, that expand beyond the licensing requirements (Workman, 2021). However, in order to meet these process qualities, it may put a strain on the facilities' already tight operating budget which suggested that higher process qualities were associated with higher cost (Workman, 2021). Other studies (Pekkurnaz et al., 2021) suggested that prices were instead related to structural qualities, such as garden size and staff-child ratios, and that process qualities, such as human resources, age-appropriate curriculum, and learning materials, were not associated with cost.

In BC, there are childcare subsidy programs for low-income families called Affordable Child Care Benefit (ACCB) (BC Gov, n.d.-a). The program provides monthly payment to aid eligible families with the cost of childcare. The amount received depended

on several factors, including household income, family size, and type of childcare (BC Gov News, 2022). Additionally, there is a Child Care Fee Reduction Initiative (CCFRI) program that offers funding to eligible, licensed child care providers in BC with the aim to reduce the parents' monthly childcare fees (BC Gov, n.d.-b).

Factors involved in childcare selection

There were different factors involved in the parents' selection of childcare services. The most common factors were: location and accessibility (Navarro-Cruz et al., 2023; Statistics Canada, 2022a; Xie et al., 2021; Johnson et al., 2012), staff-child ratios (Xie et al., 2021), age-appropriate activities (Herbst et al., 2020; Xie et al., 2021; Yesil-Dagli, 2011), group sizes (Hu et al., 2018; Yesil-Dagli, 2011), staff education (Hu et al., 2018; Statistics Canada, 2022a), staff-parent communication (Herbst et al., 2020; Hu et al., 2018), children's positive experience and behaviours (Hu et al., 2018), staff-child interactions (Herbst et al., 2020; Yesil-Dagli, 2011), hours of operation (Navarro-Cruz et al., 2023; Statistics Canada, 2022a), and cost (Xie et al., 2021; Navarro-Cruz et al., 2023; Statistics Canada, 2022a). A study (Johnson et al., 2012) on the impact of subsidies on childcare quality revealed that although parents with subsidies had the option to

choose higher quality care (defined as structural quality), they were not doing so due to the fact that the higher quality childcare facility was not located in their community. This finding revealed that quality may not be a major predictor in the selection of childcare options for some families.

Location and accessibility, and affordable cost were two of the major predictors in childcare selection; in fact, 52% of parents reported choosing a particular childcare center due to accessibility, and 37% due to cost (Statistics Canada, 2022a). However, due to the shortages of childcare centers, parents may be forced to select centers outside their community, pay more than they can afford, or not use childcare centers at all. This may cause children to be placed in other childcare options such as receiving care from family friends, grandparents, children's older siblings, and nannies. However, one of the reasons parents choose to enroll their children into childcare centers was due to a lack of trust in the ability of those options to provide high quality care (Xie et al., 2021). Therefore, the need for more affordable and accessible centers are in higher demand than ever.

Inspections of childcare centers & legislation surrounding childcare in BC

In BC, childcare centers are routinely inspected and monitored by Licensing Officers to ensure their compliance with licensing requirements in order to protect the health and safety of children. These centers must comply with the *Child Care Licensing Regulation B.C. Reg. 332/2007* and *Community Care and Assisted Living Act [SBC 2002] Chapter 75*. Inspection reports are publicly available on health authority websites and these assess the structural qualities of the center, such as staff-child ratio, group size, and staff training, rather than process qualities. Centers meeting the structural qualities listed in legislation were indicators of high quality childcare because they were associated with fewer infectious diseases and injuries (Crowley et al., 2013) which suggested that these centers would be safer for children. Additionally, when these legislative factors are met, it would provide conditions that promote process qualities (OECD, 2022).

Gap in Knowledge

The current literature thoroughly established the importance of quality in childcare centers and its association with better child development and outcomes. Many studies have also examined the factors involved in parents' selection of childcare centers, such as structural and process

qualities and cost. However, there is limited research on the relationship between childcare quality and cost in Canada. The studies that did examine this relationship occurred in Turkey and the USA. Therefore, a study in Canada that establishes a relationship between these factors would provide further assistance to Canadian parents when they search for and select childcare options for their children.

PURPOSE OF THE STUDY

The purpose of this study is to determine if the cost of childcare at licensed childcare facilities in cities and districts under the jurisdiction of Vancouver Coastal Health (VCH) align with their structural qualities of care. This study will analyze the number of total violations in VCH inspection reports and compare the number of violations of each facility to the cost charged to parents.

The findings from the study can be used as an educational tool to guide parents' decisions on childcare selections. Depending on the results, it may inform parents that factors, other than cost, are associated with quality. Education pamphlets can be created by Health Authorities with information on the different factors to consider when browsing and assessing the quality of childcare facilities.

METHODS

Standard method

VCH’s Inspection Reports Website (VCH, 2022) was used to retrieve data on the number of total violations by licensed childcare facilities that offered group childcare for children under 36-months. The following locations were selected for this study based on the most populous cities/districts in VCH: City of North Vancouver, District of North Vancouver, District of West Vancouver, Vancouver, and Richmond. The cost of childcare for each corresponding facility was collected by a Google search of the facilities’ website or email inquiries if the facility did not have a website. Each facility was categorized as “high cost,” “moderate cost,” or “low cost” based on their cost of childcare. All sampled facilities were searched on the CCFRI participation system (BC Gov, n.d.-b) to determine whether the facility was participating in the CCFRI program and the CCFRI-adjusted price was used for the cost of childcare variable in the final analysis. A total of 176 facilities were sampled. Microsoft Excel was used to record the following data collected from each facility: date of data collection, city/district, facility name, date of inspection, number of total violations, cost, and the date of participation in the CCFRI program (if applicable).

Inclusion & exclusion criteria

This study focused on childcare facilities that offered group childcare for children under 36-months in the most populous cities/districts in VCH. The filters on VCH’s Inspection Reports Website were applied to meet the inclusion criteria. Additionally, only routine inspections were included in the study and follow-up inspections were excluded. Childcare facilities that did not provide the cost of childcare on their websites or did not respond to email inquiries, or declined to provide the cost through email inquiries were excluded.

STATISTICAL ANALYSIS AND RESULTS

Descriptive statistics

Microsoft Excel was used to perform descriptive statistics on the collected nominal (Figures 1 to 3) and numerical data (Table 1).

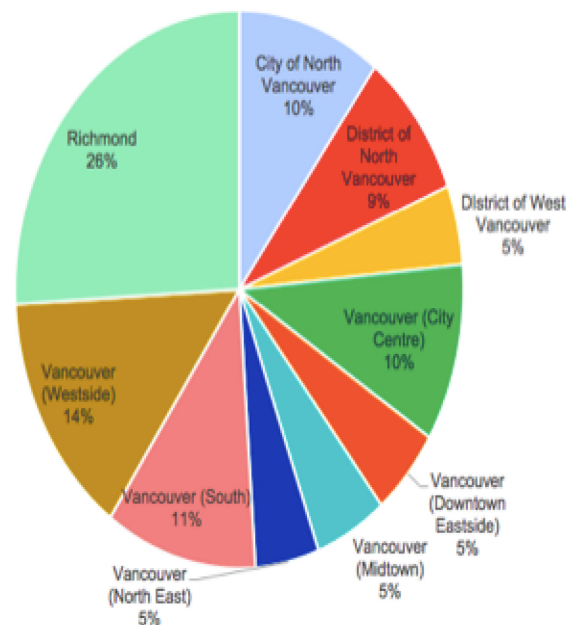


Figure 1: Percentage of licensed childcare facilities sampled in each city/district

Figure 1 shows the percentage of facilities sampled in each city/district and indicates that a large percentage of the sampled facilities are located in Richmond, followed by Vancouver (Westside).

The distribution of licensed childcare facilities in each city/district in the high, moderate, and low cost categories are shown in Figure 2.

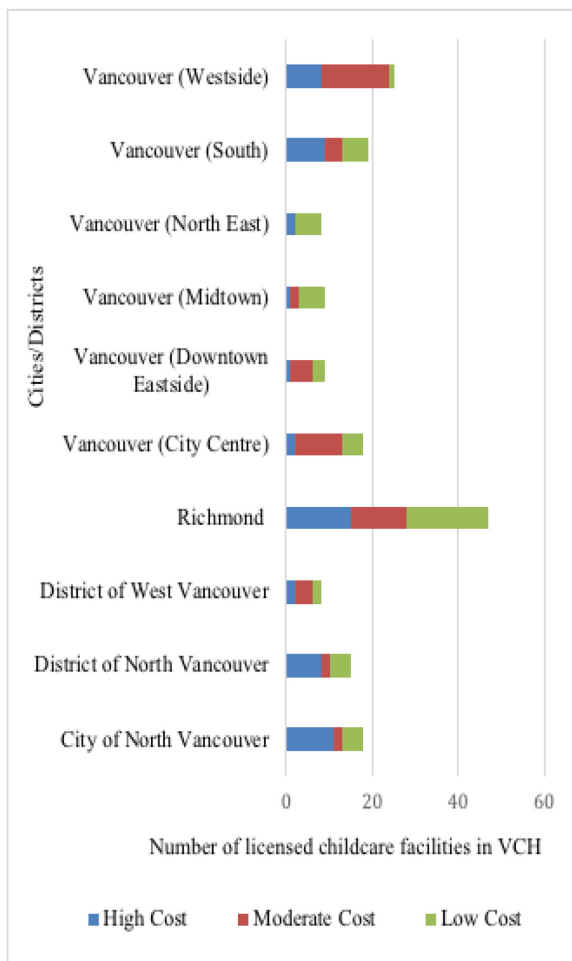


Figure 2: Distribution of licensed childcare facilities in VCH in each city/district in the high, moderate, and low price groups

Figure 2 indicate that Richmond has a high percentage of facilities in all three cost categories; highest percentage in the high and low cost categories compared to other cities/districts and second highest in the moderate cost category. Vancouver (Westside) contains the highest percentage of facilities in the moderate cost category and the lowest percentage in the low cost category.

Figure 3 shows the percentage of participation in the CCFRI program from licensed childcare facilities in the high, moderate, and low price groups. Figures 3(a)



Figure 3: Percentage of participation in the CCFRI program from licensed childcare facilities in the (a) high, (b) moderate, and (c) low price group

and (c) indicate a high percentage of participation in the program from facilities in the high and low price groups. Figure 3(b) indicates relatively equal participation and non-participation in the program from the facilities in the moderate price group.

The collected numerical data are summarized in Table 1. The cost of childcare ranged from \$200 to \$2150 with a mean cost of \$1025.73 and a median of \$920. The high price group ranged from \$1250 to \$2150, moderate price group from \$788 to \$1250, and low price group from \$788 to \$200. The number of total violations from all sampled facilities ranged from 0 to 11 with a mean of 1.84 and a median of 1.50.

Table 1: Summary of descriptive statistics of the cost of childcare and the number of total violations in all sampled licensed childcare facilities

Descriptive Statistics	Cost of Childcare	Total Violations
Count	176	176
Mean	1025.73	1.84
Maximum	2150	11
Minimum	200	0

Figure 4 shows the descriptive statistics for the number of total violations from facilities in the high, moderate, and low

price groups. The facilities in the moderate price group have a higher mean number of total violations compared to the high and low price groups. The high and low price groups had relatively similar mean number of total violations.

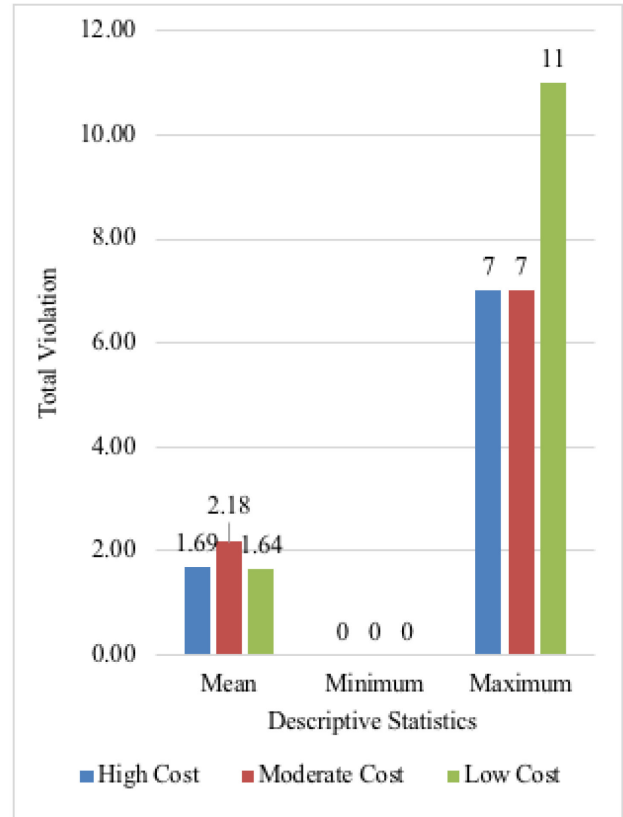


Figure 4: Descriptive statistics for the number of total violations of licensed childcare facilities in the high, moderate, and low cost categories

INFERENCEAL STATISTICS

NCSS statistical software was used to conduct one-way ANOVA, correlation, and two-tailed paired t-test analyses on the number of total violations and the cost of childcare. A p-value of 0.05 was used to determine

statistically significant findings. A total of 3 statistical tests were performed.

Inferential statistics — One-way ANOVA

A one-way ANOVA statistical test was performed to compare the mean number of total violations between the three price groups (high, moderate, and low). The results from the one-way ANOVA test are shown in Table 2.

Table 2: Results from one-way ANOVA analysis

H₀	There is no difference in the mean number of total violations between the high, moderate, and low price groups at licensed childcare facilities in VCH
H_a	There is a difference in the mean number of total violations between the high, moderate, and low price groups at licensed childcare facilities in VCH

The p-value is 0.021, indicating that the null hypothesis (H₀) is rejected and therefore, there is a statistically significant difference in the mean number of total violations between the high, moderate, and low price groups at licensed childcare facilities in VCH. There is a potential alpha error, therefore, reducing the p-value cut-off to 0.01 would minimize this error. Power is 0.368 or 36.8%, indicating low probability that results are valid.

The Scheffe’s Multiple Comparison Post-Hoc test shows the mean number of total violations in the moderate price group to be statistically significantly higher than the mean

number of total violations in the high and low price groups. The mean number of total violations were not statistically significantly different between the high and low price groups.

Inferential statistics — Correlation analysis

A correlation analysis was conducted to determine the relationship between the mean number of total violations and the cost of childcare. The results of the correlation analysis are summarized in Table 3.

Table 3: Results from correlation analysis

H₀	There is no correlation between the mean number of total violations and the cost of childcare at licensed childcare facilities in VCH
H_a	There is a correlation between the mean number of total violations and the cost of childcare at licensed childcare facilities in VCH

The p-value is 0.9067, indicating that the null hypothesis (H₀) is not rejected and therefore, there is not a statistically significant correlation between the mean number of total violations and the cost of childcare at licensed childcare facilities in VCH. Figure 5 shows the linear relationship between the mean number of total violations and the cost of childcare at licensed childcare facilities in VCH. The correlation coefficient is 0.0089 which indicates little to no relationship between the variables. Furthermore, the slope is zero, suggesting that with an increase in the

cost of childcare, there will be no change in the number of total violations.

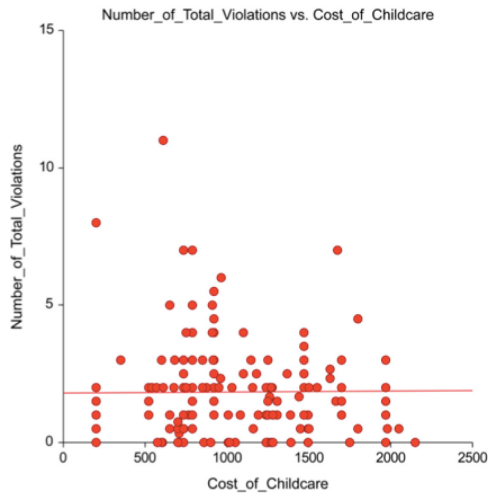


Figure 5: NCSS linear regression plot of the cost of childcare at licensed childcare facilities in VCH and the number of total violations

Inferential statistics — Two-tailed paired t-test

A two-tailed paired t-test was conducted to compare the mean number of total violations before and after participation in the CCFRI program. The results are summarized in Table 4.

Table 4: Results from two-tailed paired t-test

H₀	The mean number of total violations at licensed childcare facilities in VCH before participation in the CCFRI program are the same as the mean number of total violations at licensed childcare facilities in VCH after participation in the CCFRI program
H_a	The mean number of total violations at licensed childcare facilities in VCH before participation in the CCFRI program are different from the mean number of total violations at licensed childcare facilities in VCH after participation

The p-value is 0.881, indicating that the null hypothesis (H_0) is not rejected and therefore, there is not a statistically significant difference between the mean number of total violations at licensed childcare facilities in VCH before and after participation in the CCFRI program. Power is 0.056 or 5.6% indicating low probability that the results are valid. There is a possible beta error of 0.944 or 94.4%, indicating a 94.4% chance the statistical test does not reject H_0 , even though in reality, the alternate hypothesis (H_a) is true.

DISCUSSION

This study compared the cost of childcare at licensed childcare facilities in VCH with the number of total violations committed by the facilities. It resulted in both statistically and not statistically significant findings.

The number of total violations and the cost of childcare had no statistically significant correlation. This meant that with a change in the cost of childcare, there was no change in the number of total violation which indicates that the cost of childcare is not a factor that affects the number of total violations in a facility. A possible reason for this finding is that some of the structural qualities of care are mandated by the government and are required by the facility in order to operate. For example, staff-child ratio

is considered to be a structural quality (Ceglowski & Bacigalupa, 2002) and is included in Schedule E of the *Child Care Licensing Regulation B.C. Reg. 332/2007*. Therefore, the facilities, regardless of its cost, would comply with these requirements in order to remain operational.

The mean number of total violations before and after participation in the CCFRI program were not found to be statistically significantly different. This indicates that participation in the CCFRI program did not affect the number of total violations.

Therefore, participation in the program is not a factor that affects the number of total violation and will not affect the structural quality of care provided by the facilities, as total violation was used to represent structural quality of care in this study. A possible reason for this finding is that, similar to the finding of no correlation between the number of total violations and the cost of childcare, some structural qualities are legislatively required in order for the facilities to remain operational. For example, space and physical environment is considered a structural quality (Garon-Carrier, 2018) and is included in the *Child Care Licensing Regulation B.C. Reg. 332/2007* where it states the minimum size of the facility depending on the number of children.

Both of these findings are related because the CCFRI program is a subsidy program that provides funding to childcare facilities in order to reduce parents' childcare fees. Since the findings indicated no difference in the number of total violations before and after participating in the program, it suggested that cost of childcare does not influence the number of total violations. Therefore, supported the results from the correlation analysis where no correlation between the cost of childcare and number of total violations were found.

The mean number of total violations between the high, moderate, and low price groups were found to be statistically significantly different. The number of total violations between the high and low price groups were not statistically significantly different which further supported the findings from the previous analyses that indicated that the cost of childcare does not affect the number of total violations. However, it was not expected for the moderate price group to have a higher number of total violations than the high and low price groups as this price group was in the middle price range. A possible reason for this finding is that perhaps there were limitations in the methodology and a larger sample size is needed in order to reveal differences (if differences actually exist).

The findings from this study indicated no relationship between cost and structural qualities of care; meaning that the children in the high, moderate, and low price groups received similar structural qualities of care. In terms of process qualities, such as curriculum and learning activities, the relationship with cost is beyond the scope of this study and would require further evaluation in future studies.

The findings from this study were inconsistent with the studies in the literature review that compared the cost of childcare to structural qualities of care. One study (Pekkurnaz et al., 2021) suggested that prices were related to structural qualities, such as garden size and staff-child ratios. However, the findings from this study did not support the results from past research as it suggested no relationship between the cost of childcare and structural qualities of care (represented by the number of total violations).

LIMITATIONS

Several limitations were identified during the data collection procedure for the cost of childcare and total violation variables.

The Google searches for the cost of childcare took a significant amount of time because the prices were difficult to find on the facilities' websites. A majority of the facilities

required contacting the facilities' operator to inquire about the cost. Out of the 77 facilities that were emailed to inquire about the cost, 30% of the facilities were non-responsive and therefore, were not included in the study. This may have affected the data in that the responsive facilities may have certain characteristics that leads to more (or less) number of violations, and thus, may have introduced bias to the results.

The study only included facilities that had websites or responded to email inquiries. Due to time constraints, the author did not phone the facilities that did not have email addresses or websites, and therefore, these facilities were excluded from the study. However, these may be smaller facilities since they were not as technologically developed. This may have affected the data in that only medium to large facilities were included in the study and may not be a representative sample of the facilities in VCH. This may decrease external validity in that it would affect the ability of the results to be extrapolated to other health authorities in BC. The facilities in this study were not representative of the facilities in VCH, thus if the results were extrapolated to other BC health authorities, this limitation would also affect those results.

The data used in the study were all manually collected from publicly available

secondary sources. This meant that the study was subjected to human error because incorrect data could have been recorded which would affect the results of the study.

Additionally, there were a total of 271 facilities in the sampled cities/districts, however, only 176 facilities were included in the study because these facilities provided the cost and had inspection reports indicating the number of total violations. This meant 95 facilities did not have inspection reports, did not have websites, or were non-responsive to emails inquiring about the cost. In fact, there were 11 facilities (or 4% of the total facilities in the cities/districts) that did not have inspection reports, and therefore, were excluded from the study. This may have affected the results because these facilities may be newly opened and did not have their inspection reports uploaded at the time the study was conducted.

KNOWLEDGE TRANSLATION

With the increasing cost of childcare and the shortages of childcare facilities, parents may have limited options when selecting childcare facilities. The findings from this study can be used as a resource to inform parents that more expensive childcare facilities does not necessarily provide higher quality childcare compared to less expensive childcare facilities, at least in terms of

structural quality. The findings can be included on the government webpage for childcare, ChildCareBC, or in brochures to help parents make an informed decision when choosing facilities. For example, an educational brochure can be created and available online with information on the different factors to consider when selecting childcare facilities. It would also state that more expensive childcare facilities does not always reflect the quality of care provided and that they can still obtain good childcare quality without being financially burdened by the high cost.

FUTURE RESEARCH

To further study the relationship between the cost and quality of childcare, future student research projects may include:

- Assess the relationship between process qualities of care and the cost of childcare by conducting a survey on operators and staff at licensed childcare facilities.
- Repeat the project and phone the facilities that did not provide email addresses or websites.
- Repeat the project and request for access to VCH's Inspection Reports Website database

CONCLUSION

The findings from this study determined that the cost of childcare was not correlated to the childcare facilities' structural qualities of care. This means that there were no difference in the structural qualities of childcare provided by facilities that were more expensive or less expensive. Although the relationship (or lack thereof) between cost of childcare and structural qualities of childcare had been established through this study, this is only one half of the component that forms childcare quality. Further studies on processing qualities will need to be conducted to determine the overall relationship between cost and quality of childcare.

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ABBREVIATIONS

H ₀	Null hypothesis
H _a	Alternate hypothesis
VCH	Vancouver Coastal Health
CCFRI	Child Care Fee Reduction Initiative

COMPETING INTEREST

The authors declare that they have no competing interests.

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