

University of Montana

## ScholarWorks at University of Montana

---

Undergraduate Theses, Professional Papers, and Capstone Artifacts

---

2015

### ANALYSIS OF MARKET DEMAND AND QUALITY OF INFANT TODDLER CARE PROGRAMS IN MISSOULA, MONTANA

Jennifer A. Keller

University of Montana, [jennifer.keller@umontana.edu](mailto:jennifer.keller@umontana.edu)

Follow this and additional works at: <https://scholarworks.umt.edu/utpp>



Part of the Advertising and Promotion Management Commons, Business Administration, Management, and Operations Commons, and the Entrepreneurial and Small Business Operations Commons

Let us know how access to this document benefits you.

---

#### Recommended Citation

Keller, Jennifer A., "ANALYSIS OF MARKET DEMAND AND QUALITY OF INFANT TODDLER CARE PROGRAMS IN MISSOULA, MONTANA" (2015). *Undergraduate Theses, Professional Papers, and Capstone Artifacts*. 39.

<https://scholarworks.umt.edu/utpp/39>

This Professional Paper is brought to you for free and open access by ScholarWorks at University of Montana. It has been accepted for inclusion in Undergraduate Theses, Professional Papers, and Capstone Artifacts by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact [scholarworks@mso.umt.edu](mailto:scholarworks@mso.umt.edu).

ANALYSIS OF MARKET DEMAND AND QUALITY OF INFANT TODDLER CARE  
PROGRAMS IN MISSOULA, MONTANA

By

JENNIFER ANNE KELLER

Undergraduate Professional Paper  
presented in partial fulfillment of the requirements  
for the University Scholar distinction

Davidson Honors College

University of Montana

Missoula, MT

May 2015

Approved by:

Dr. Bambi Douma, Faculty Mentor

Department of Management and Marketing

## **Abstract**

Keller, Jennifer, B.S., May 2015

Management and Marketing

Faculty Mentor: Dr. Bambi Douma

In order to test the hypothesis that there are not enough high quality infant toddler care programs in Missoula to meet the demand of the market, creating an opportunity for a local child care provider to open a high quality infant toddler program as part of the child care services that they offer, an observational study of the current infant toddler care programs in Missoula, Montana was conducted. Spirit at Play, a child care center in Missoula, Montana, is evaluating the current child care market in Missoula to see if, and how many, quality infant toddler programs are being offered and if there is an opportunity for Spirit at Play to enter this market by opening their own infant toddler care program to serve children ages six weeks through two years old. A quality checklist was created and used in program visitations to evaluate the quality level of one third of the infant toddler programs in Missoula. Due to the results of the study, it has been determined that there is an opportunity for Spirit at Play to expand its current services into infant toddler care. The results of this research were used to develop a business plan for the organization.

## Table of Contents

Abstract.....	2
Introduction.....	5
Methods .....	6
Subjects.....	6
Quality Measure.....	7
Visiting Procedure .....	7
Results.....	8
<i>Data Synopsis</i> .....	8
<i>Quality Rating</i> .....	9
<i>Infant to Caregiver Ratio</i> .....	9
<i>Program Capacity</i> .....	10
<i>Years of Infant Toddler Experience</i> .....	10
<i>Quality Accreditation Program Participation</i> .....	11
<i>Correlations</i> .....	12
<i>Quality Rating vs. Number of Providers with Multiple Accreditations</i> .....	12
<i>Child: Staff Ratio vs. Average Program Capacity</i> .....	13
<i>Average Quality Score vs. Type of Provider</i> .....	14
Discussion .....	14
Application.....	16
<i>Perceptual Map</i> .....	17
Limitations .....	17
References.....	19

## Table of Figures

Table 1. Child Care Program Summary Data .....	9
Figure 1. Quality Rating .....	9
Figure 2. Infant to Caregiver Ratio .....	10
Figure 3. Program Capacity .....	10
Figure 4. Years of Infant Toddler Experience .....	11
Figure 5. Number of Child Care Programs Participating in Each Quality Accreditation Program .....	12
Figure 6. Quality Rating Vs. Number of Providers with Multiple Accreditations Correlation .....	13
Figure 7. Figure 6. Child: Staff Ratio vs. Average Program Capacity .....	14
Figure 8. Average Quality Score vs. Type of Provider.....	14
Figure 9. Perceptual Map.....	17

# ANALYSIS OF MARKET DEMAND AND QUALITY OF INFANT TODDLER CARE PROGRAMS IN MISSOULA, MONTANA

## **Introduction**

The Montana infant toddler care industry employs more than 6,600 people and cares for more than 200,000 children annually (McKee). However, there are not enough providers to accommodate all of the children that need care, resulting in waiting lists of over nine months long. The availability of infant care is limited due to the higher costs of additional staff to meet state requirements, infant formula, infant specific sanitation equipment, and additional building space. The care that is available is steadily increasing in quality as child care providers respond to recently published research demonstrating the importance of early childhood education and brain development. Child care providers are pursuing quality accreditations and training through the National Association for the Education of Young Children and through the Stars to Quality program (McKee). Seven percent of Montana child care providers are nationally accredited at this time ("Child Care in America: 2014 State Fact Sheets").

In Montana, 70,990 residents are under the age of four years old. The average annual cost of infant care in a child care center is \$8,858 and the average annual cost of infant care in a family child care home is \$7,173. Married couples spend, on average, 12% of their annual income on infant child care and single mothers spend an average of 42% of their income on infant care for their child ("Child Care in America: 2014 State Fact Sheets"). There are 1,361 child care providers in Montana, providing 23,809 child care slots. Due to the limited number of child care providers in Montana, there are still 47,181 children under four needing child care during the work day ("Child Care in America: 2014 State Fact Sheets").

The infant toddler care market in Montana is divided into three types of infant care programs: child care centers, family child care homes, and group child care homes. Child care centers require an increased number of licenses, are able to care for more than 12 children at one time, and must maintain a 4:1 ratio of infants to caregivers. Infants are defined as children under the age of two years old. Family child care homes provide child care in a residence instead of a public center and are required to maintain a 3:1 ratio of infants to caregivers. Group child care homes are licensed to care for up to 12 children at a time, are required to retain two caregivers on

site during hours of operation, and are required to maintain a 3:1 infant to caregiver ratio ("How to Become a Child care Provider").

An average of 1,500 infants are born in Missoula County each year (Miller). There are approximately 4,500 children, aged zero to two years old, in the Missoula daycare market each year. Current infant care programs in Missoula can accommodate a total of 950 infants. The Missoula child care market does not offer enough care to meet demand for children under two, with the best programs in Missoula having very long waiting lists and most programs operating at full or nearly full capacity (McKee). However, Missoula child care providers are active in participating in state and voluntary quality accreditations programs and in obtaining additional training and licenses. Parents pay, on average, an excess of \$1,100 per month to place two infants in full time child care. Even though this monthly rate does not usually cover all of the expenses of an infant program, child care providers in Missoula are hesitant to increase the costs of childcare because a majority of parents cannot afford to pay any more (McKee).

Spirit at Play, a child care center in Missoula, Montana, is evaluating the current child care market in Missoula to see if, and how many, quality infant toddler programs are being offered and if there is an opportunity for Spirit at Play to enter this market by opening their own infant toddler care program to serve children ages six weeks through two years old. Spirit at Play does not currently serve this market as they presently care for children ages three to six years old during the school year and ages three to nine years old during the summer.

It is predicted that there are not enough high quality infant toddler care programs in Missoula to meet the demand of the market, creating an opportunity for Spirit at Play to open a high quality infant toddler program as part of the child care services that they offer.

## **Methods**

### **Subjects**

There are 36 infant toddler programs currently in Missoula, Montana, 15 of which are child care centers, seven are family care homes, and 14 are group child care homes. Due to accessibility and cooperation of the infant toddler programs, a convenience sample of these programs was used. 12 of the 36 programs were visited and assessed using a variety of quality metrics. Seven of the visited programs were child care centers, three were family care homes,

and two were group child care homes. Five senior level college students served as evaluators of the visited programs.

### **Quality Measure**

A checklist was constructed to assess the various quality attributes of the visited child care programs in Missoula, Montana. The checklist was compiled using quality indicator data from Child Care Resources, Inc., the Division of Childcare Development, and from Child Care Aware of America. The checklist contained 41 metrics assessing the program's organization, safety, administration, staff members, level of continuing education required for each staff member per year, child to caregiver ratio, accreditations, licenses, enrollment in quality programs, program mission and philosophy, special needs accommodations, cost, age range served, capacity, years of experience, accessibility, cooperation, cleanliness, activities, materials, educational offerings, quiet play spaces, active play spaces, food preparation, interaction with parents, interaction with children, atmosphere, and availability of toys. After visiting each facility, the evaluator would score the infant toddler program on an overall quality scale ranging from zero to five, with zero being the lowest quality and five being the highest quality. While all 41 metrics were considered in designating an overall quality score for each program, all 41 metrics were not individually analyzed.

### **Visiting Procedure**

The five evaluators were randomly assigned to two or three infant toddler care programs to visit. The evaluator then called their respective programs and set up a visitation appointment. Evaluators printed the quality checklist and brought it with them to their scheduled appointment. All evaluators used the same checklist. Evaluators were trained to objectively observe and notate the various quality metrics listed on the checklist during their visit. Evaluators were instructed to engage in conversation with the program director to gain in-depth information about the program, including non-observable metrics like cost, licenses, and continuing education requirements. Immediately following the visit, evaluators rated the program on overall quality and wrote a detailed synopsis of their visit. All evaluators underwent the same training concerning completing visitations, using the checklist, observing objectively, and engaging in director discussions in order to produce the most reliable and valid results possible.

## Results

Upon completion of all 12 visits, the checklists and synopses were compiled and evaluated. The results of this study were used to evaluate the opportunity for Spirit at Play to enter the market in the Discussion and Application sections below.

### *Data Synopsis*

Table 1 summarizes the data analysis of the visited child care programs and provides comparison of the currently available programs to Spirit at Play's potential infant toddler care program.

Program	Age Range	Program Type	Quality Rating (0-5)	Child: Staff	Capacity	Experience (Years)	Quality Accreditations
ST. Paul Infant Toddler Center	6 weeks - 3 years	Child Care Center	5	4:1	30	9	Level 1 on Montana Early Care & Education Career Path, Starting STARS to Quality program
Sunflower Seeds Montessori	3 months - 5 years	Child Care Center	5	3:1	70	20	Extended License
ASUM Children's Learning Center #1	19 months - 3 years	Child Care Center	4	4:1	60	9	Extended License
ASUM Early Learning Center # 2	19 months - 3 years	Child Care Center	4	4:1	60	9	Extended License
Growing Tree	6 weeks - 12 years	Child Care Center	4	4:1	26	20	STARS to Quality participant (0 Stars), Extended License
Windsong Child Care and Preschool	6 weeks - 5 years	Group Home Child Care	4	3:1	12	21	Level 6+ on Montana Early Care & Education Career Path, STARS to Quality member(1 Star)
Cuddle Bugs Day Care	6 weeks - 5 years	Child Care Center	3	2.5:1	31	20	Level 6+ on Montana Early Care & Education Career Path, Extended License
Discovery Preschool & Childcare Center, Inc.	6 weeks - 6 years	Child Care Center	3	4:1	45	21	Extended License
Snuggle Bunnies Preschool and Childcare	0 weeks - 5 years	Family Child Care	3	3:1	6	9	Level 2 on Montana Early Care & Education Career Path, STARS to Quality participant (0 Stars)
Southside Preschool and Childcare	6 weeks -	Family Child Care	3	3:1	6	20	None

	12 years						
Playschool Daycare	6 weeks - 12 years	Group Home Child Care	1	1:1	12	21	Level 3 on Montana Early Care & Education Career Path
Tana Huft Daycare	0 weeks - 5 years	Family Child Care	0	6:1	6	21	None
<i>Spirit at Play (Potential Program)</i>	<i>6 weeks - 9 years</i>	<i>Child Care Center</i>	5	<i>2:1</i>	<i>8 - 16</i>	<i>24</i>	<i>National Association for the Education of Young Children, STARS to Quality participant (2 Stars), Extended License</i>

Table 1. Child Care Program Summary Data

### Quality Rating

The mean level of overall quality, as determined by the overall quality scale rating, of the visited infant care programs is 3.25 with a standard deviation of 1.48. One program received a score of zero and two programs received a score of five. This data is bimodal with the two modes being three and four. Figure 1 shows the frequency distribution of the overall quality scores.



Figure 1. Quality Rating

### Infant to Caregiver Ratio

The mean infant to caregiver ratio is 3.46:1 with a standard deviation of 1.19. Five programs had an infant to caregiver ratio of 4:1. Figure 2 shows the frequency distribution of the infant to caregiver ratios.

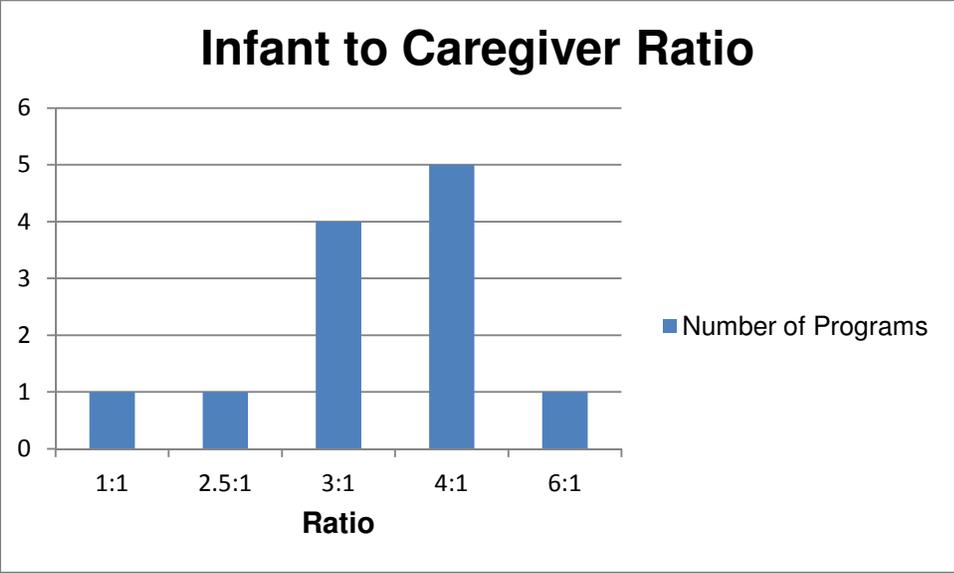


Figure 2. Infant to Caregiver Ratio

**Program Capacity**

The mean program capacity is 30.34 infants and with a standard deviation of 23.39. The spread of capacity ranged from six infants to 70 infants. Figure 3 shows the frequency distribution of the program capacities.

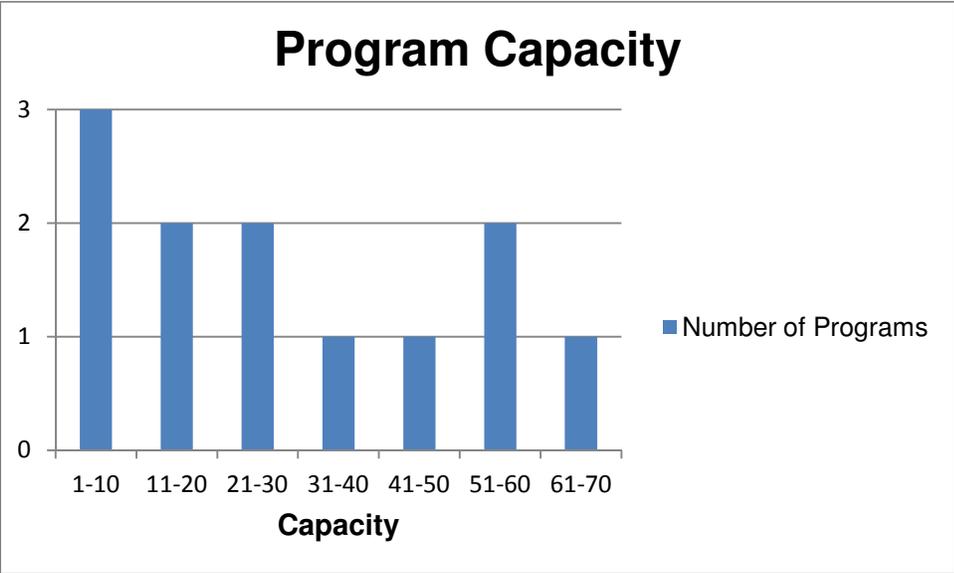


Figure 3. Program Capacity

**Years of Infant Toddler Experience**

The mean years of infant toddler care experience is 16.67 years with a standard deviation of 5.68 years. The visited child care programs are evenly split into thirds with four programs

having nine years of experience, four programs having 20 years of experience, and four programs having 21 years of experience. The median years of experience is 20 years. Figure 4 shows the frequency distribution of the programs' years of experience with infants and toddlers.

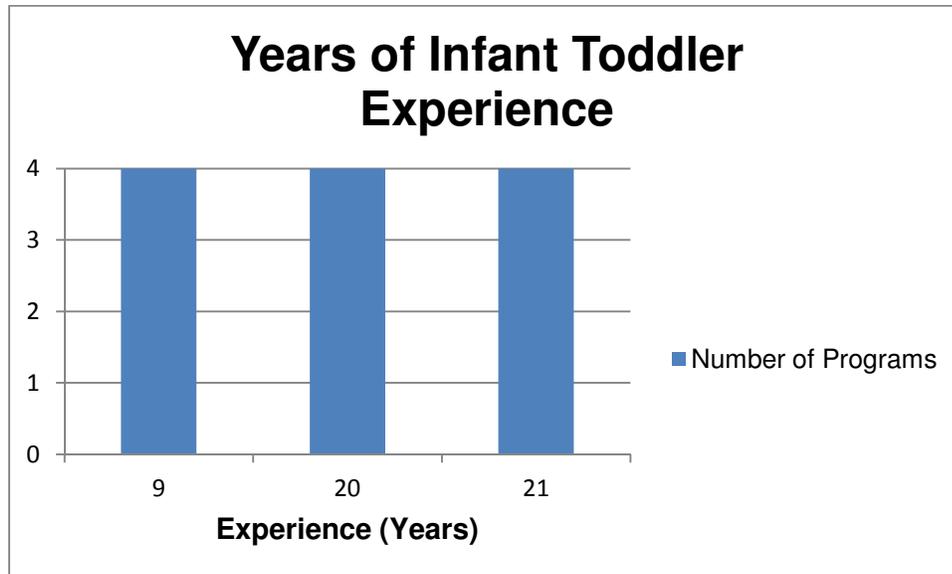


Figure 4. Years of Infant Toddler Experience

### ***Quality Accreditation Program Participation***

Of the visited programs, four belong to the Stars to Quality program, five were pursuing levels of accreditation on the Montana Early Care & Education Career Path, six held extended licenses, and two did not have any quality accreditations.

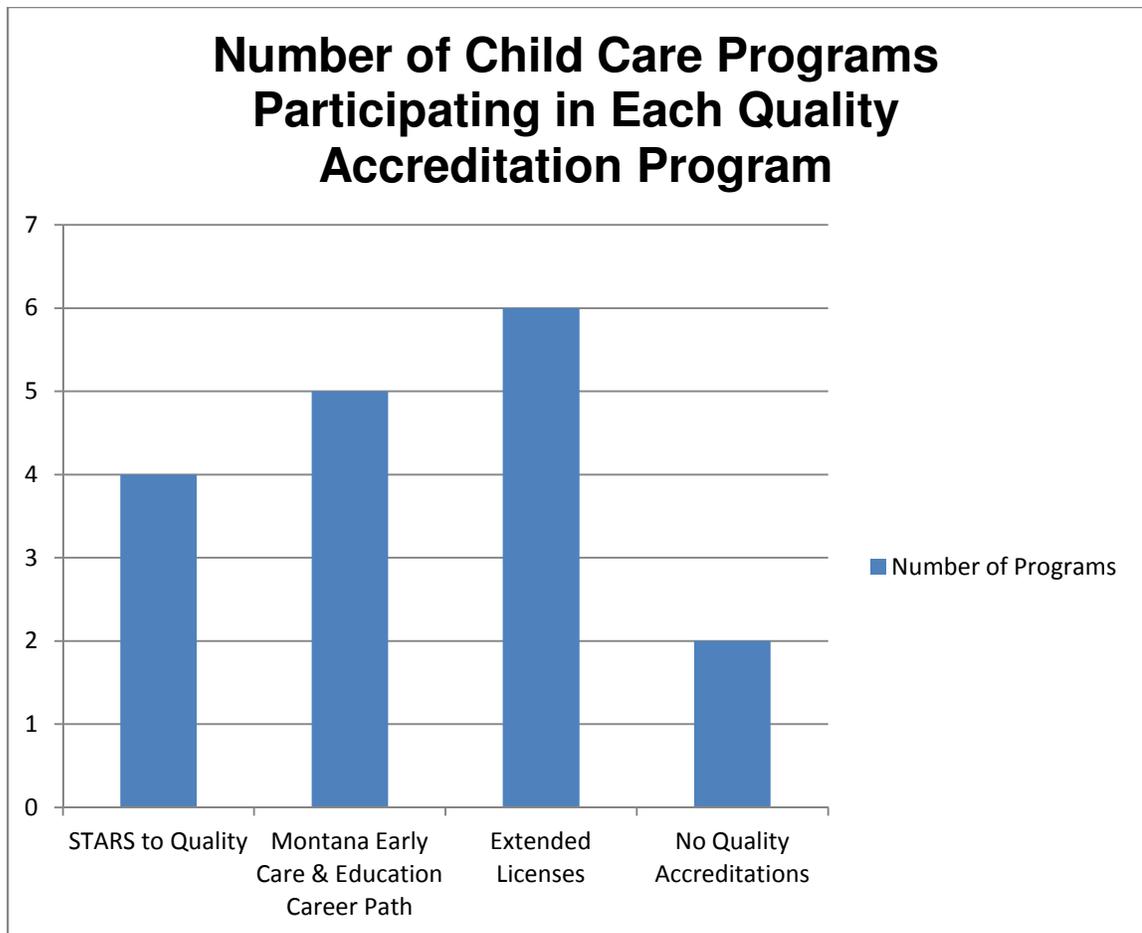


Figure 5. Number of Child Care Programs Participating in Each Quality Accreditation Program

### *Correlations*

#### *Quality Rating vs. Number of Providers with Multiple Accreditations*

There is a moderate to strong positive correlation of .59 between the overall quality rating and the number of providers with multiple accreditations. Figure 5 demonstrates this correlation.

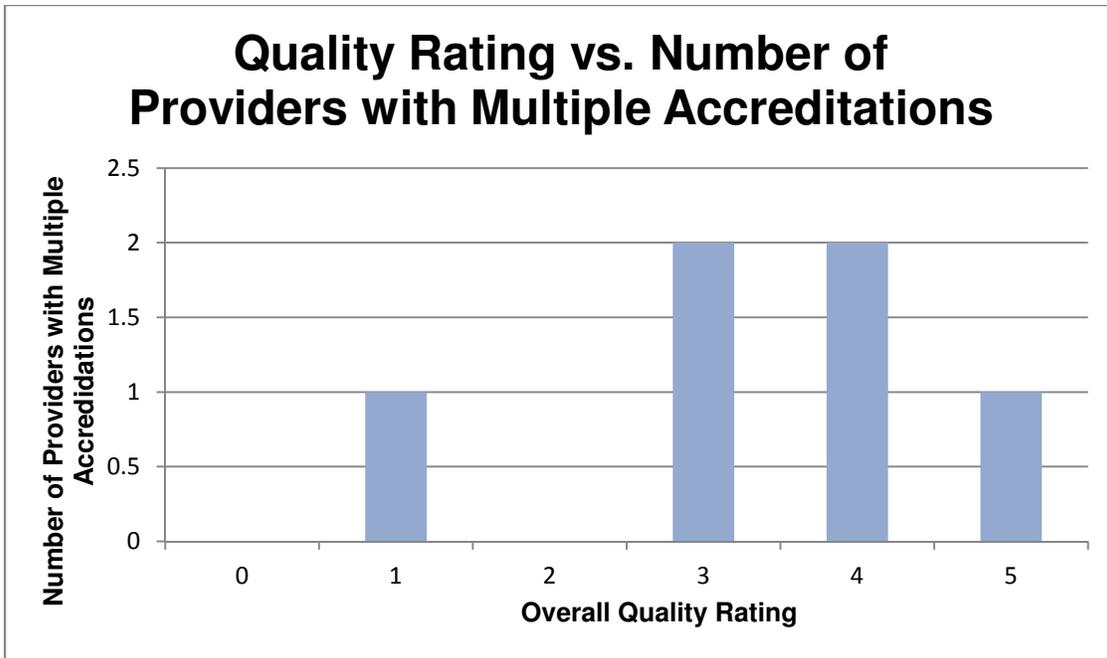


Figure 6. Quality Rating Vs. Number of Providers with Multiple Accreditations Correlation

***Child: Staff Ratio vs. Average Program Capacity***

Excluding the outlier of program with a 6:1 child to caregiver ratio, there is a very strong positive correlation of .956 between the child to caregiver ratio and the average program capacity. The program with the ratio of 2.5:1 was included in the 3:1 ratio bin due to the 2.5:1 ratio also posing an outlier factor in the data set. Figure 6 demonstrates this correlation.

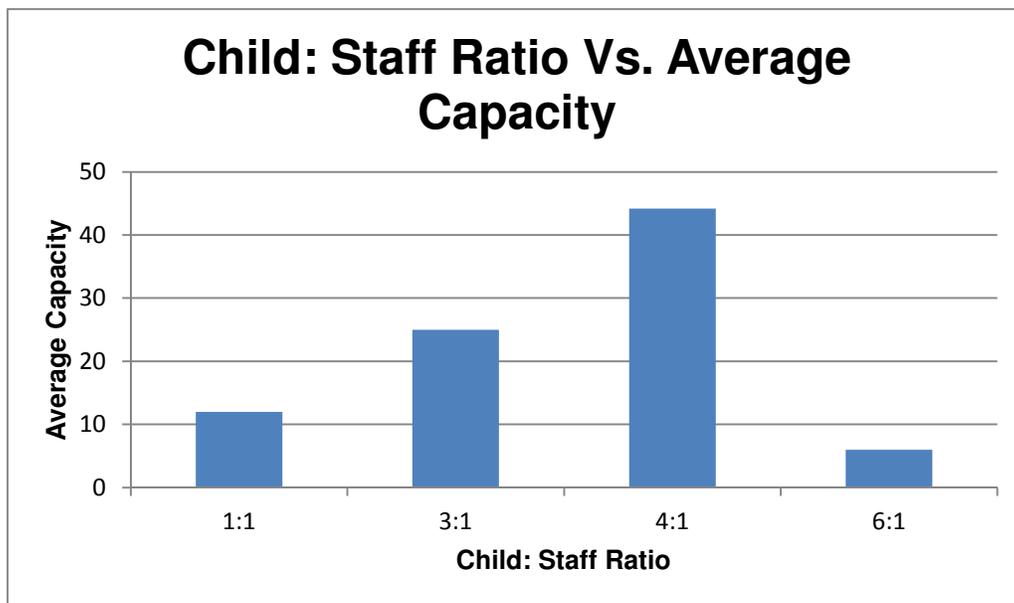


Figure 7. Figure 6. Child: Staff Ratio vs. Average Program Capacity

*Average Quality Score vs. Type of Provider*

Child care centers have the highest average overall quality score of 4 in comparison with family child care homes and group child care homes, which both have an average overall quality score of 2.5. Figure 7 demonstrates this finding.

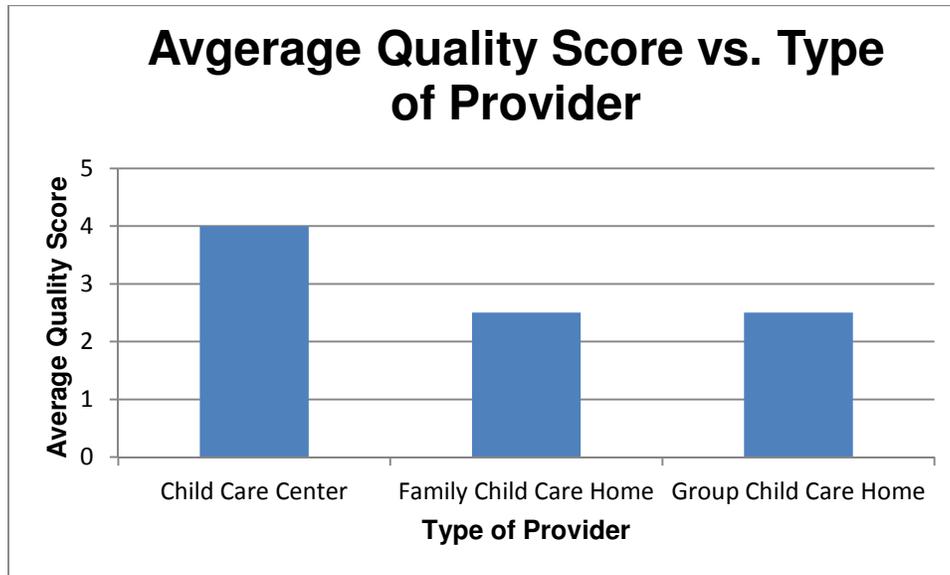


Figure 8. Average Quality Score vs. Type of Provider

## Discussion

Spirit at Play is seeking to open their own infant toddler care program to serve six week through two year old children in the Missoula community if there is a need for quality infant toddler care in the market. It is predicted that there are not enough high quality infant toddler care programs in Missoula to meet the demand of the market, creating an opportunity for Spirit at Play to open a high quality infant toddler care program as part of the child care services that they currently offer.

The 41 metrics evaluated in the quality checklist determine the level of quality in an infant toddler program. The program quality level is represented by the overall quality score assigned to each child care program by the evaluator after the program visitation. After consideration of the 41 quality metrics, it has been determined that overall quality rating, child to caregiver ratio, capacity, years of infant toddler care experience, and quality accreditations metrics were the best indicators of high quality programs due to industry standards (McClure).

The mean overall quality rating of infant toddler care programs in Missoula is 3.25, indicating that the majority of programs currently being offered are of average quality. Therefore, the market is lacking high quality infant toddler care programs. The mean child to caregiver ratio is 3.46:1, which is .46 above the state mandated ratio for family child care and group home child care providers in Montana and .54 below the state mandated ratio for child care centers in Montana. As all of the visited infant toddler programs were operating either at or slightly below state required ratios, this indicates that infants are receiving the minimum amount of individual attention required by the state, suggesting lower quality care.

The mean program capacity of 30.34 infants indicates that the majority of infant care slots are in child care centers as child care centers are the only care provider licensed by the State of Montana to care for more than 12 children. However, the data is skewed left, indicating that the Missoula market prefers smaller capacity programs. However, because the range of 64 infants and the standard deviation of 23.39 is so large for this data set, many programs are not offering the high quality, small capacity programs that the market desires. Because the years of experience data set is weighted right with a median of 20 years, the market trend is to offer longevity in experience in its programs. However, one third of the programs are offering subpar years of experience in comparison to market standards, suggesting that one third of the programs offer lower quality care. Of the 12 visited programs, only five held multiple quality accreditations, while the remaining seven held either one or no quality accreditations. More than half of the infant toddler programs in Missoula are not actively pursuing multiple quality accreditations, indicating a lack of high quality programs.

Several correlations between the analyzed quality indicators were found. The first is that there is a moderate positive correlation between overall quality score and participation in multiple quality accreditation programs. The majority of programs that participated in multiple quality accreditation programs received an overall quality score of three or higher. The second is that there is a very strong positive correlation between the average program capacity and the child to caregiver ratio. As the program capacity increases, the child to caregiver ratio also increases, suggesting that infants are receiving less individualized attention from caregivers in programs that accommodate large amounts of children at one time. The third is that child care centers have a higher average overall quality score in comparison with family and group child

care homes. This finding indicates that child care centers, on average, provide higher quality child care than the other two types of child care programs offered in Missoula.

The combined capacity of all infant toddler programs in Missoula is 950 infants and toddlers, whereas there are 4,500 infants and toddlers in the city limits of Missoula. Therefore, there is a deficit of 3,550 infants who are potential customers of infant toddler child care programs, but are not currently utilizing these services because of a lack in total care availability. Due to the shortage of high quality infant toddler programs and the high level of demand for these services, it has been determined that there is an opportunity for Spirit at Play to expand its current services into infant toddler care.

## **Application**

Spirit at Play's potential infant toddler program is positioned to be one of the highest quality infant care programs in Missoula. First, Spirit at Play would be one of the largest age range providers in the market as they would accommodate six week to nine year old children in the summer and six week to six year old children during the school year. They would be one of four providers accepting children older than six years old. Second, Spirit at Play's current programs and facility was evaluated for quality using the quality checklist described above and received a score of five. As long as their potential program continues to uphold their current quality standards, they would be one of the few infant toddler care providers in Missoula that provides exceptional quality childcare. Due to Spirit at Play's overall quality score of five, they would be offering above the already high average overall quality score of four for child care centers in Missoula. Third, Spirit at Play would have the smallest infant to caregiver ratio offered in Missoula child care centers and the smallest infant to caregiver ratio offered for their desired capacity through maintaining a ratio of two infants to every one caregiver. Fourth, to fulfill market desires, Spirit at Play would only accept eight to 16 infants in the program, making them the smallest child care center program and one of the smallest infant care programs in general in Missoula. Fifth, Spirit at Play would participate in the most quality accreditation programs, including following guidelines from the National Association for the Education of Young Children, pursuing level 2 status in the STARS to Quality program, and earning extended licenses. They would be one of two programs with an overall quality score of 5 that also participates in multiple quality accreditation programs. Sixth, due to Spirit at Play's staff's level

of experience, they would offer the greatest number of years of infant toddler care experience in the market with 24 years of experience.

**Perceptual Map**

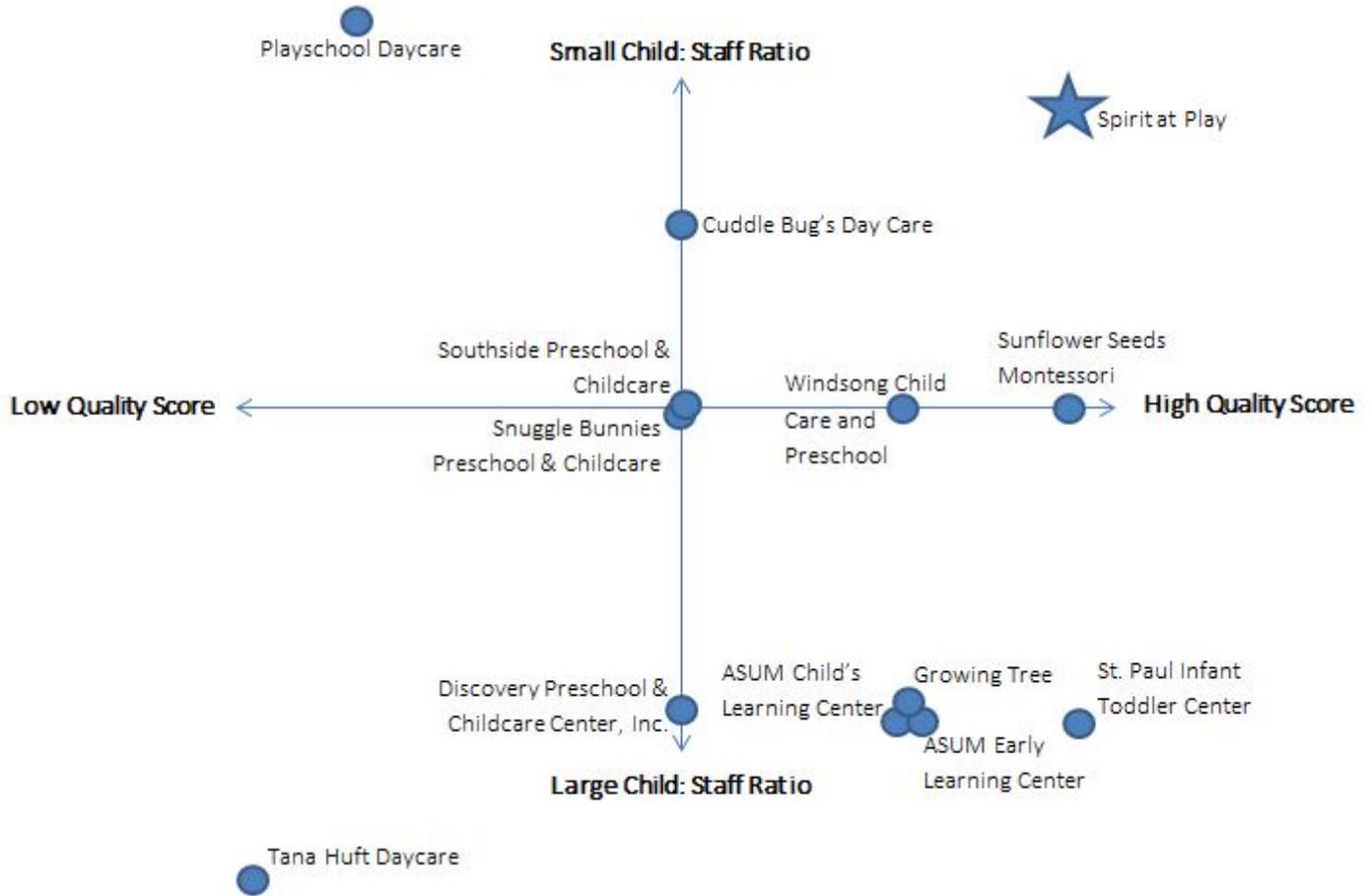


Figure 9. Perceptual Map

**Limitations**

This observational study did contain limitations. The first limitation is that there was only one evaluator present at each program visitation. Therefore, the evaluator’s analysis of the program was not verified for accuracy by another evaluator, introducing potential bias into the study. The second limitation is that the sample of 12 programs was taken using convenience sampling techniques. Therefore, the sample was not random and is not guaranteed to be representative of the market. The third limitation is that some of the quality metrics were

qualitative in nature, instead of quantitative, making them hard to analyze objectively. Finally, because this study did not conduct a census of the market, the results from the sample were extrapolated to represent the characteristics of the entire market.

To enhance the reliability of future studies, it is recommended to require that multiple evaluators attend each program visitation, to take a random sample of the market, to quantify all metrics, and to limit extrapolations as much as possible. Future studies on the subject could consider alternatives to public child care, such as stay-at-home parenting, in-house nannies, and familial care. Researchers could include a comparison analysis of the quality level offered by public versus private infant toddler care.

## References

- "Child Care in America: 2014 State Fact Sheets." *Child Care Aware*. NACCRRA, 1 Mar. 2014. Web. 18 Apr. 2015.
- "How to Become a Childcare Provider." *Child Care Connections*. Child Care Connections. Web. 23 Mar. 2015.
- McClure, Robin. "Top Trends in Child Care - Child Care Is Changing." *About.com*. About.com. Web. 22 Apr. 2015.
- McKee, Jennifer. "State's Child Care System under Duress." *Missoulian.com*. Lee Enterprises, Inc., 9 Sept. 2009. Web. 19 Apr. 2015.
- Miller, Alice. "From Hospitals to Midwives, Women Giving Birth in Missoula Have Choices." *Missoulian.com*. Missoulian, 10 Aug. 2014. Web. 22 Mar. 2015.