Does Parent Satisfaction with a Childcare Provider Matter for Loyalty?

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STRUCTURED ABSTRACT

Does Parent Satisfaction with a Childcare Provider Matter for Loyalty?

Research Paper

Purpose of this paper

This study investigates the relationship between parent satisfaction and child retention at a childcare provider.

Design/methodology/approach

The survey data used in the analyses involves a sample size of 1,003 respondents, all clients of a large, national childcare provider in the US. Logistic regression was used to test the propositions.

Findings

The results indicate that parent satisfaction is most important to child retention when the child is very young (birth to one year of age). As children increase in age, however, parent satisfaction becomes increasingly less predictive of children's continued enrollment at a childcare facility.

Research limitations/implications

One of the limitations of this research is that it tests the propositions within a single firm. Future research should attempt to replicate these findings across several childcare providers.

Practical implications

Emphasizing improvements in different attributes for different age groups has implications for increasing retention for childcare providers, in addition to ultimately increasing the satisfaction of parents.

What is original/value of paper

While all would agree that childcare services are of extremely high importance (at both a national and individual level), no research to date has examined the role of parent satisfaction to the continued enrollment of a child at a childcare facility. Our findings show that the presumed relationship between satisfaction and retention varies greatly by the age of child.

KEYWORDS: Customer Satisfaction, Customer Retention, Child Care, Customer Service, Service Environment, Research Paper.

INTRODUCTION

How important is parents' satisfaction with a childcare provider and their repurchase behavior? Governments often study parents' satisfaction levels to guide their policy-making efforts. Similarly, researchers study the drivers of parent satisfaction with the implicit belief that satisfaction impacts parents' ultimate behavior.

In general, both practitioners and academics have accepted the premise that customer satisfaction results in customer behavior patterns that positively impact business results (Kotler, 1994; Rust and Oliver, 1994). A number of studies support the validity of such a linkage. Research has found that customer satisfaction has a measurable impact on purchase intentions (Bolton and Drew, 1991), on customer retention (Mittal and Kamakura, 2001), on share of spending (Baumann, Burton, and Elliott, 2005; Bowman and Narayandas, 2004; Keiningham, Perkins-Munn, Aksoy, and Estrin, 2005; Keiningham, Perkins-Munn, Evans, 2003) and on financial performance (Anderson, Fornell and Lehmann, 1994; Leung, Li, and Au, 1998; Zahorik and Rust, 1993).

Currently, however, the relationship between parent satisfaction and retention of a childcare provider is accepted as a truism without rigorous empirical research to support the relationship. Therefore, the need exists for an examination of the relationship between parents' levels of satisfaction and the retention of their children with a childcare provider. This research addresses this need by examining this relationship for parents of a large, US childcare provider.

THE USA CHILDCARE MARKET

In the United States, 62.8 percent of mothers of children (ages 0-5) are members of the labor force, more than double the 30.3 percent level of the 1970s (Blau, 2003a). Someone other than their parents regularly cares for over seventy percent of children with employed mothers,

with figures ranging from twenty-two to thirty-two percent in center-based childcare arrangements (Capizzano, Adams, and Sonenstein, 2000; Ehrle, Adams and Tout, 2001). As a result of the dramatic increase in demand, issues surrounding childcare are of great interest to families, employers, and policy makers in the United States and other countries.

Because few topics are as important to most families as finding the proper balance between caring for children and work, numerous studies by government entities, think tanks, non-profit organizations, and academic researchers have focused on childcare issues (Gain 1999; Mitchell, 1992). These studies, as is the case with this research, almost exclusively focus on center-based care. This likely occurs because outside of center-based care, childcare primarily takes place in the homes of parents or relatives, both contexts less likely to be studied. The Urban Institute reports that childcare arrangements of working mothers for children under the age of three were handled as follows: 27% Parents, 27% Relatives, 22% Center-based care, 17% Home-based care, and 7% Nanny care (Ehrle, Adams and Tout, 2001).

With regard to center-based care, research finds that parents consistently express high levels of satisfaction with their childcare (Bogat and Gensheimer, 1986; Britner and Phillips, 1995; Erdwins, Casper, and Buffardi, 1998). One plausible explanation for this may be found in satisfaction as relief (Oliver, 1997): that is the satisfaction of finding a suitable place for the child. Objective assessments of the actual quality of childcare facilities in the USA however are distressing. Research conducted in the 1990s by four different universities found that only 15% of childcare facilities could be classified as "excellent," the bottom 15% were "abysmal" and the middle 70% were barely adequate (Brownlee et. al., 1997). To resolve this paradox, Brownlee et. al. (1997) argue that parents want to believe that they have made the right choice for their

children, and are therefore in a state of denial in order to cope with the fact that most are sending their children to "barely adequate" or worse childcare facilities.

The disconnect between parent satisfaction and objective assessments of childcare quality is lessened in part by findings of the National Child Care Survey (Hoffert et. al, 1991) that despite the stated levels of high satisfaction, twenty-six percent of parents surveyed indicated that they wanted to change their childcare arrangements. This would appear to be supported by the fact that in studies of parents who actually switched childcare providers, service failure is frequently cited as the impetus behind their switching behavior (Grace and O'Cass, 2001a; Grace and O'Cass, 2001b; O'Cass and Grace, 2001).

It is clear that the link between satisfaction and retention in the context of childcare services is not straightforward. While researchers have examined the predictors of parent satisfaction with childcare (Britner and Phillips, 1995; Britner, 1999), currently no research exists examining the relationship between parent satisfaction and retention of their children with a childcare provider. The next section reviews the relevant services literature, culminating in the hypotheses to be tested.

HYPOTHESES DEVELOPMENT

Given that satisfaction has been shown to be positively related to customer retention across a variety of industries (for example: Anderson and Sullivan, 1993; Bolton, 1998; Ittner and Larcker, 1998; Jones and Sasser, 1995; Loveman, 1998; Mittal and Kamakura, 2001), we would expect the following with regard to a parent's satisfaction and the retention of a childcare provider.

H1: Parent satisfaction will be positively related to childcare provider retention.

Studies on child development suggest that there are multiple stages of human development from birth to five years of age (Child Development Institute, 2005). Erik Erikson, Sigmund Freud, and Margaret Mahler all theorize that children in fact do go through distinct developmental phases starting from birth (Childstudy.net, 2005) and hence their needs and behavior during the various stages could differ. For example, studies propose that while not perfect, after the second birthday, children's social and emotional development can tend to be clustered into annual milestones (American Academy of Pediatrics, 2005; Child Development Institute, 2005). This suggests that parents may have different expectations regarding their childcare facilities based on the developmental stage of the child and changes in its needs. Therefore, with regard to the relationship between parent satisfaction and childcare provider retention, we would expect the following:

H2: The relationship between parent satisfaction and childcare provider retention will vary by the developmental stage of the child.

To test these hypotheses empirically a study was designed and a survey was conducted. The following section elaborates upon the research design.

METHODOLOGY

The research for this study was conducted in two parts: 1) an exploratory phase designed to aid in the creation of a questionnaire, and 2) a quantitative phase consisting of the administration and analysis of a parent/guardian satisfaction survey.

In an effort to ascertain the components of service important to parents of a childcare facility, the authors first engaged in several methods of exploratory research. The first step was to conduct an extensive literature review regarding childcare in the United States. A large body of research was available, as it is a subject heavily researched by both government and non-profit

organizations (for example: The Government Accounting Office, www.gao.gov; The Urban Institute, www.urban.org; The National Network for Child Care, www.nncc.org). Additionally, researchers have examined issues of objective quality (Blau and Hagy, 1998; Blau, 2003a) and parent search behavior (Grace and O'Cass, 2001a & b; O'Cass and Grace, 2001).

The second phase was to conduct in depth, one-on-one interviews with staff at the childcare facilities regarding their perceptions of the critical service attributes (Carlzon, 1987) that determine parents' ultimate satisfaction with the service. In all, ten one-on-one interviews were conducted either in person or via telephone to randomly selected staff members from around the United States. Interviews lasted between one and two hours, and were recorded. A team of researchers then went over each of the interviews to compile a list of attributes determining satisfaction.

The final step was to conduct two focus groups with parents of children enrolled in the childcare facility. The two groups consisted of parents of children enrolled at the childcare facility. Each group was comprised of ten parents and lasted between 1.5 and 2 hours. These groups were videotaped. As with the one-on-one interviews, a team of researchers then went over each of the focus group videos to compile a list of attributes.

From the literature review, in-depth interviews, and focus groups, a list of parent needs was compiled. The list exceeded three hundred needs. These needs were then organized into a smaller number of managerially relevant groupings using K-J analysis[1] (Bossert, 1991).

In addition to the list of attributes, the exploratory research confirmed what the literature suggests about how age (particularly school-age versus non-school-age) affects parents' needs from a childcare facility. The difference in needs for school-age versus non-school-age children was largely because school-age children needed less center-based care due to their school

schedule. The authors found during in depth interviews with childcare staff and focus groups conducted with parents that parents held different expectations from their childcare provider based upon the age/developmental stage of their children even before children reach school age (e.g., expectations differed for parents of very young children vs. parents of two, three, four-year-olds, etc.). This likely results from the differing needs and capabilities of children at various stages of child development (Child Development Institute, 2005).

QUESTIONNAIRE DEVELOPMENT

The list of attributes derived through the K-J analysis was used as the foundation for the creation of a questionnaire. The questionnaire contained fifty-four closed-end questions regarding various aspects of the service at their childcare facility and an overall satisfaction measure. To minimize order bias, the service attribute questions were randomly ordered in creating the final attribute list. To further mitigate order bias, two versions of the questionnaire were created, each with opposite ordering of the service attribute questions. All closed-end questions used a 1 to 10, end-anchored scale to assess the level of satisfaction with the provider. The questionnaire was then pre-tested with a small number of parents for understandability and readability.

SURVEY DATA

In order to test these hypotheses empirically data from a large, national US childcare provider was used. Facilities are located throughout the continental United States (in sixty percent of US states and the District of Columbia). The firm provides childcare for in excess of 20,000 children annually.

The firm faces competition from several other national and regional care facilities. The vast majority of competitors, however, are small, single facility operations. It is important to

note that even relatively small towns tend to offer a wide array of childcare facilities. For example, the state of Indiana recognizes 181 different childcare facilities available to parents in the city of Evansville, population 121,582 according to the US Census (State of Indiana Division of Family and Children, 2005). In the context of this research, parents would appear to have discretion in the choice of care facilities chosen.

As a result, while the firm is large relative to the vast majority of its competitors, it does not exceed a five percent share of the center-based childcare market in any of the markets it serves. A random sample of 10,000 parents was then drawn from the childcare provider's customer database (i.e., all parents had an equal likelihood of being selected). Questionnaires were mailed to parents' homes. In all, approximately 10,000 surveys were mailed. Of those 2,020 were returned (a 20% response rate).

Approximately six months after the fielding of the survey, which followed the beginning of a new school year in the USA (early Fall), the childcare provider provided the authors with information regarding the continued enrollment of respondents' children with the childcare facility. This data was then appended to the survey data.

To eliminate the possible impact of government assistance on the decision to continue to use the childcare provider, subsidized respondents were removed from the analyses, as subsidies have been found to directly impact choice options and behavior with regard to childcare (Blau, 2003b; Children's Defense Fund, 2002).

The focus of this study was on parents of children ages one to five. The reason for this focus is that information gathered through the all phases of the exploratory research revealed that parents' needs differed significantly with regard to childcare after children became of school age.

Likewise, needs differed significantly with regard to the care of infants. Therefore, parents of children less than one or greater than five years of age were removed from this analysis.

Officers of the childcare provider confirmed the validity of this conclusion in their discussions with the authors. Furthermore, examination of children ages less than five years of age is typical of research into childcare since after children reach school age, childcare arrangements tend to become more informal (Blau, 2003a).

Additionally, this study specifically addresses the impact of the developmental stage of a child on the relationship between parent satisfaction and childcare provider retention. Therefore, to uniquely address this issue and eliminate bias stemming from experience with the childcare service for a different child, it was necessary to remove households with children of multiple ages receiving care from the childcare provider from the analysis. As a result, the total usable sample for this investigation is 1,003 respondents.

ANALYSES AND RESULTS

To test the existence of a relationship between parent's overall satisfaction and childcare provider's retention, we tested the correlation between the two variables. Correlations were examined for parents as a whole, in addition to each child age segment separately. Table 1 shows that satisfaction is positively associated with retention when looking across all child age groups (1-5) thus confirming Hypothesis 1. When looking at parents as a whole the association is relatively weak but statistically significant explaining 5% of the variance in the data.

TAKE IN TABLE I

Hypothesis 2 stated that the relationship between parent satisfaction and childcare provider retention should vary by the developmental stage of the child. To conduct a preliminary test, correlation analysis was performed. When segmenting parents based upon child age, the relationship differed significantly. Interestingly parent satisfaction had a much stronger link with childcare provider retention for parents of children 1-year of age than for parents of children ages 2-5. In fact, the variance explained was more than three times greater for parents of 1-year olds than for any other group ($R^2 = .20$ versus $R^2 = .06$). Additionally, the strength of the relationship between parent satisfaction and childcare provider retention declined with each increase in age of the child (child). For parents of 5-year olds, the correlation was not significant at the 95% confidence level. Obviously for experienced parents, childcare satisfaction is less a driver of retention. One explanation may be that changing the childcare provider after some years represent switching costs (pre-contractual search costs and the childcare provider's unique understanding of the child) thus satisfaction has less of an impact on whether the parent exits the relationship.

Paired t-tests on the correlations, after using Fisher's r to z transformation, revealed that the difference in correlations for the 1-year of age group relative to all other age groups was significant at the ninety five percent confidence level (see Table 2). Although directionally it appears that the strength of the relationship between parent satisfaction and childcare provider retention declines as the child (child) increases in age, the difference in the correlations was not statistically significant for age groups 2-5.

TAKE IN TABLE II

While correlation analysis is useful in establishing a positive relationship[2], more robust tests should be performed before drawing conclusions regarding hypotheses. While we are examining links between satisfaction levels to retention, it is a known fact that linear approximations are not appropriate for two reasons. First, retention is a binary variable (i.e., 0 or 1), typically quasi-likelihood methods based on generalized linear models should be used (Wedderburn, 1974). Second, the impact of satisfaction on customer behavior has frequently been demonstrated to be non-linear. Mittal and Kamakura (2001) for example find that the relationship between satisfaction and repurchase is non-linear. Likewise, Anderson (1998) find the relationship between customer satisfaction and word-of-mouth and Keiningham, Perkins-Munn, and Evans (2003) find the relationship between satisfaction and share-of-wallet to be non-linear.

For these reasons, logistic regression analysis was conducted to develop predictive models of the relationship between changes in parents' overall levels of satisfaction and childcare provider retention. The corresponding specification of the logistic regression model is:

$$P = \exp(b_0 + b_1x_1)/(1 + \exp(b_0 + b_1x_1))$$

where P is the probability of the actual retention with the childcare provider = 'yes', exp is the exponential function and is written as $\exp(x)$ or $e^{(x)}$ (where "e" is the base of the natural logarithm and is approximately equal to 2.7183, b_0 is the intercept, b_1 is the coefficient for the predictor variable and x_1 is the value of the predictor variable (satisfaction).

Table 3 shows the results of the logistic regressions. The coefficient estimates, the Wald statistic and the model chi-square statistic are presented to examine overall model fit. Because several model specifications are being compared, the odds ratio (i.e., Exponential Beta) and the Nagelkerke R^2 (Nagelkerke 1991) statistics are presented to compare model performance.[3]

TAKE IN TABLE III

As with the initial findings based on correlations, when looking at all age groups, satisfaction is positively associated with retention, in this case explaining 8% of the variance in the data based upon the Nagelkerke R^2. When segmenting parents based upon the age of the child, the strength of the relationship differed significantly. Again, parent satisfaction was a much stronger predictor of childcare provider retention for parents of children 1-year of age than for parents of children ages 2-5, with the variance explained being more than three times greater for parents of 1-year olds than for any other group (Nagelkerke R^2 = .28 versus Nagelkerke R^2 = .09).

Figure 1 shows the probability of childcare provider retention by the parents' level of satisfaction for the various age groups under investigation. In all cases the relationship is positive although the shape of the curves varies considerably by age group. The pattern that emerges from the figure is one where incremental increases in satisfaction levels appear to have a stronger impact on retention for age 1 group. This is especially the case for increases at lower levels of satisfaction (1-6) and the incremental effect appears to lessen with higher satisfaction levels (7-10). As older age groups are examined, the steepness of the curve diminishes indicating decreasing impact of satisfaction on retention with increases in age.

TAKE IN FIGURE 1

The results appear to support Hypotheses 1 and 2, that parent satisfaction will be positively associated with childcare provider retention, and that this relationship would vary by the developmental stage of the child. It is important to note, however, that a statistically significant relationship between parent satisfaction and childcare provider retention is not universal; for parents of children age 5, satisfaction was not a significant predictor of retention.

We also tested to determine whether satisfaction levels varied between age groups. To test this empirically, an ANOVA was conducted to assess differences in overall satisfaction between age groups. The results indicate no significant differences between groups ($F(4,986) = 0.32$, $p = 0.86$). To further prove a lack of difference among groups in satisfaction levels, post hoc mean comparisons using the Tamhane T2 test (Tamhane, 1977) were conducted. Table 4 summarizes the post hoc comparison test results for each of the groupings.

TAKE IN TABLE IV

There were no statistically meaningful differences in satisfaction levels among the various groups. In fact, mean satisfaction levels for all groups were relatively high and almost identical amongst age groups (M = 8.06, 7.96, 7.85, 7.99 and 8.01 for age group 1, 2, 3, 4 and 5 respectively). As parents gain expertise with the childcare provider, their ratings of overall satisfaction seem to remain positive.

INVESTIGATING SPECIFIC SERVICE ATTRIBUTES DRIVING OVERALL SATISFACTION

Although the result for overall satisfaction levels shows no variation amongst age groups, this result does not say much about the drivers of these overall levels of satisfaction within age

groups. In fact, it is possible to observe changing importance of specific attribute's performance on overall satisfaction with age membership. It has been shown that customers' evaluation criteria change as they gain experience (Mittal, Katrichis, and Kumar, 2001). This is understandable, given that expectations are shaped by experience and therefore change over time (Rust, Zahorik, and Keiningham, 2004). Experts were found to have more developed and complex cognitive structures compared with novices (Alba and Hutchinson 1987), and use more attributes and more attribute levels to differentiate between offerings (Moorthy, Ratchford and Talukdar, 1997). Hence, it is necessary to understand the drivers of overall satisfaction for different age groups.

Because novice parents lack experience, when evaluating the quality of the service offering, it is hypothesized that they will focus more on observables or tangible elements with the service and the provider (e.g. facilities and equipment, the way the facility-parent interaction is handled, etc.). For parents with high degree of usage experience with the child, output elements of the childcare provider's services rather than the tangibles elements of the childcare provider's services are expected to be the key drivers of parent satisfaction. Therefore the following hypothesis is proposed:

H3: As parents gain expertise with the childcare provider's service, i.e. the child stays with the facility for a longer period, we will see significant differences in antecedents to satisfaction. For those with longer (shorter) experience, output (tangibles) will be a more important driver of satisfaction.

Preliminary analyses included the creation of six scales using Factor Analysis via parent components (see Table 5). The initial items were purified into the final 35 items making up the 6 scales by eliminating cross loadings. Alpha tests were conducted on each scale to evaluate

goodness of fit for those items with factor loadings of .5 or higher. Cronbach's Alpha was above the acceptable range (i.e., greater than .70) for all scales (Nunnally, 1967).

The underlying attributes for each scale were all intuitive. Labels for each dimension were manually assigned based upon common themes for variables associated with each scale. The common themes of the scales are:

- Child Development: a ten item scale (alpha = 0.96)
- Caregivers: a seven item scale (alpha = 0.94)
- Professional Relationship: a six item scale (alpha = 0.93)
- Facilities and Equipment: a five item scale (alpha = 0.89)
- Scheduling: a three item scale (alpha = 0.72)
- Fees: a four item scale (alpha = 0.84)

TAKE IN TABLE V

The specific attributes measured in this study fall under the 2 broad categories. The output group consists of child development, whereas professional relationship, facilities & equipment, scheduling, and fees would fall under tangibles. Parent groups were segmented based upon the age of child.

To determine the potential impact of collinearity on the regression coefficients, the variance inflation factor (Belsley, Kuh, and Welsch, 1980; Hair et. al., 1992) and condition index (Pedhazur and Schmelkin, 1991) were calculated. Collinearity levels were well under the thresholds supported by Pedhazur and Schmelkin 1991 (condition index < 30), and Hair et. al. 1992 (VIF < 10), with the maximum condition index = 1.8, and the maximum VIF = 1.2 for any

of the regression models. OLS regressions were then run using the six factor scores as independent variables on overall satisfaction. Table 6 summarizes the relative importance in the regression of each of the attributes shown in Table 5.

TAKE IN TABLE VI

The contention proposed in hypotheses 3 was that as parents gain expertise with the childcare provider, they would focus more on output (child development) rather than tangibles as drivers of overall satisfaction. The results demonstrate that child development is in fact significant and important for all age groups. When the relative rankings of importance are examined in table 7, we observe that child development while ranked 5 in age group 1 increases in importance as a driver with greater expertise. For age groups 2, 3, 4 and 5, while not ranked the top driver, the relative ranking increases from 5 to 4 to 2 and 3. As for the remaining drivers classified as tangibles, all were significant within the age groups. Contrary to expectations however, one attribute - facilities and equipment – was not significant for age group 1. These results therefore lend partial support to hypothesis 3.

Further examination of the rankings indicates that in fact caregivers seem to be the most important attribute driving overall satisfaction. It is consistently ranked first or second place within all age groups. Professional relationships also appear important (ranked 1 or 2 for age groups 1, 2 and 5). Scheduling becomes less important as a driver as expertise with childcare provider increases. While ranked 3 for younger age groups like 1 and 2, it drops last to 6th place for older age groups 3, 4 and 5. Finally, facilities and equipment is ranked lower (5 or 6) except for age group 4 and is non significant for age group 1.

TAKE IN TABLE VII

DISCUSSION AND IMPLICATIONS

In line with the findings of the literature, the results indicate that parent satisfaction has a positive impact on childcare services retention. However, this impact is especially pronounced earlier in the relationship. Only for parents of children one year of age did satisfaction explain more than 10% of the variance in retention (explaining 28% of the variance). The economic implication for childcare providers is that parent satisfaction is a more critical concern with regard to child retention for parents of very young children (children 1 year of age). Since parents with very young children are more involved due to the uncertainty in the decision and most likely it is the first time such a decision is being made and the child is separated from home, it is possible that satisfaction becomes more important. Furthermore, research regarding uncertainty and perceived risk may help to explain why parents of older children are less impacted by satisfaction on the retention of their children with the childcare service. Rust, Zahorik and Keiningham (1994, 48) note:

> "*Under some circumstances it is perfectly rational for an individual to choose an option that actually is expected to be worse (on average) if the downside risk for that option is less. One thing that tends to reduce uncertainty, and thus worry, is experience. As experience increases, knowledge about product or service increases, and the expected distribution of expected outcomes tightens … Downside risk is reduced, and probability of repurchase therefore increases, even if the perceived quality is only what is expected.*

This helps explain why customers often appear loyal. They are being rational and avoiding risk."

Therefore, parent satisfaction may be overridden by the perceived potential downside risk and switching costs associated with removing children from a childcare service who has worked with parents' children for an extended period, i.e. asset specificity (Williamson, 1975). Although switching costs may be one potential explanation for the results – based on the competitive landscape for childcare services described earlier – parents in fact do have alternatives they could switch should they deem necessary.

It is also interesting to notice from figure 1 that the slope of the curve for age 1 is significantly different than the other age groups for lower levels of satisfaction. There seems to be an asymmetric effect where for this group, minor changes in overall satisfaction level given low degrees of satisfaction have a major impact on the retention probability. However when overall satisfaction level for this group improves beyond six, the impact on retention probability approaches that of the other groups. This finding implies that for age group 1 it is absolutely essential for the childcare provider to avoid low degrees of parent satisfaction in order to retain the parent's contract.

The lack of significant differences in overall satisfaction between age groups also indicates that there are no significant changes in satisfaction with this childcare provider given time and experience. This result however did not preclude some attribute determinants gaining relative importance in determining overall satisfaction compared to others with time. It was expected that output attributes should contribute to overall satisfaction to a greater extent later in the relationship as opposed to tangibles, which should be more influential earlier on. Since childcare services have credence properties, the parent could look to more tangible cues at the

beginning of the relationship. With time, as child development becomes more observable, this attribute was expected to become more influential. This proposition was partially supported by the data. Although child development was less important in the age 1 group and gained importance with parent experience, it was not the top determinant of overall satisfaction. In this childcare services context, the quality of the caregiver seems to be the primary determinant of overall satisfaction. The qualifications of the teachers, supervision, absenteeism of the caregiver and related issues seem to be paramount to parents within all age groups. Hence, although all other attributes were mostly significant in predicting overall satisfaction, service providers in this context should focus particularly on developing and maintaining the quality of issues related to their caregivers.

Another attribute determined to be important is professional relationships. For several of the age groups, this attribute ranked 1st or 2nd place. Consequently, childcare service providers should strive to keep an open relationship with parents and provide regular feedback in a professional manner. Finally, although statistically significant, scheduling seems to be one of the least important attributes impacting overall satisfaction, especially with increased experience.

LIMITATIONS

Despite the rewarding results from this study the authors acknowledge that there are reasons other than satisfaction alone that affect retention. Switching costs in this industry could be especially high given the waiting lists for childcare at some facilities and the risks associated with the learning curve of a new provider. Nevertheless, it is important to remember that parents do have alternatives with regard to childcare (i.e., childcare facilities face a host of competitors). Therefore, based upon examination of a host of other industries one would reasonably expect satisfaction to play an important role in retention.

The reader is reminded that the purpose of this paper is to provide the first examination of the relationship between parent satisfaction and actual retention of a childcare provider. This single focus of satisfaction on customer behavior or financial outcomes is typical of so many other papers in the marketing literature (for example, Anderson, 1998; Anderson, Fornell, and Rust, 1997; Keiningham, Perkins-Munn and Evans, 2003; Rust and Zahorik, 1993). This research seeks to continue in that vein by providing insight into an as yet uninvestigated area of research.

Nonetheless, this research offers valuable insight into the role that parent satisfaction plays into the retention of children with caregivers: a topic all would agree to be of significant importance not only to parents, but also to society as a whole.

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TABLE I: Pearson Correlations: Overall Parent Satisfaction and Childcare provider Retention

	r	Sig.	N	R Square
Ages 1-5	**0.234**	**0.000**	**991**	**0.05**
Age 1	**0.445**	**0.000**	**165**	**0.20**
Age 2	**0.251**	**0.000**	**203**	**0.06**
Age 3	**0.221**	**0.001**	**222**	**0.05**
Age 4	**0.187**	**0.006**	**215**	**0.04**
Age 5	0.130	0.076	186	0.02

Note: Bold results indicate significance at $p < 0.05$.

TABLE II: Paired t-Tests on the Overall Parent Satisfaction and Childcare provider Retention Correlations Using Fisher's r to z Transformation

AGE (i)	r	N	AGE (j)	Dif. (i-j)	Z	Sig. (two-tailed)
1	0.445	165	**2**	**0.194**	**2.10**	**0.036**
			3	**0.224**	**2.42**	**0.016**
			4	**0.258**	**2.77**	**0.006**
			5	**0.315**	**3.22**	**0.001**
2	0.251	203	**1**	**-0.194**	**-2.10**	**0.036**
			3	0.030	0.32	0.749
			4	0.064	0.68	0.497
			5	0.121	1.23	0.219
3	0.221	222	**1**	**-0.224**	**-2.42**	**0.016**
			2	-0.030	-0.32	0.749
			4	0.034	0.37	0.711
			5	0.091	0.94	0.347
4	0.187	215	**1**	**-0.258**	**-2.77**	**0.006**
			2	-0.064	-0.68	0.497
			3	-0.034	-0.37	0.711
			5	0.057	0.58	0.562
5	0.130	186	**1**	**-0.315**	**-3.22**	**0.001**
			2	-0.121	-1.23	0.219
			3	-0.091	-0.94	0.347
			4	-0.057	-0.58	0.562

Note: Bold results indicate significance at $p < 0.05$.

TABLE III: Logistic Regression Analyses: Overall Parent Satisfaction as a Predictor of Childcare provider Retention

	IV	B	S.E.	Wald	Sig.	Exp(B)	Cox & Snell R Square	Nagelkerke R Square	X^2
Ages 1-5	**OV Sat**	**0.29**	**0.04**	**48.43**	**0.00**	**6.03**	**0.05**	**0.08**	**47.00**
Age 1	**OV Sat**	**0.54**	**0.12**	**20.09**	**0.00**	**1.72**	**0.14**	**0.28**	**24.31**
Age 2	**OV Sat**	**0.32**	**0.10**	**11.13**	**0.00**	**1.38**	**0.05**	**0.09**	**10.96**
Age 3	**OV Sat**	**0.26**	**0.08**	**9.90**	**0.00**	**1.30**	**0.04**	**0.07**	**9.56**
Age 4	**OV Sat**	**0.25**	**0.09**	**6.98**	**0.01**	**1.28**	**0.03**	**0.06**	**6.61**
Age 5	OV Sat	0.16	0.09	3.06	0.08	1.17	0.02	0.03	2.93

Note: Bold results indicate significance at $p < 0.05$.

TABLE IV: Post hoc Mean Comparison Tests of Overall Parent Satisfaction Levels by Each Child Age Group

AGE (i)	Mean Sat.	Std. Dev.	N	AGE (j)	Mean Dif. (i-j)	Std. Error	Sig.
1	8.06	1.93	165	2	0.10	0.20	1.00
				3	0.21	0.20	0.97
				4	0.07	0.20	1.00
				5	0.06	0.21	1.00
2	7.96	1.84	203	1	-0.10	0.20	1.00
				3	0.10	0.19	1.00
				4	-0.03	0.18	1.00
				5	-0.05	0.19	1.00
3	7.85	1.98	222	1	-0.21	0.20	0.97
				2	-0.10	0.19	1.00
				4	-0.13	0.19	1.00
				5	-0.15	0.20	1.00
4	7.99	1.90	215	1	-0.07	0.20	1.00
				2	0.03	0.18	1.00
				3	0.13	0.19	1.00
				5	-0.02	0.20	1.00
5	8.01	1.99	186	1	-0.06	0.21	1.00
				2	0.05	0.19	1.00
				3	0.15	0.20	1.00
				4	0.02	0.20	1.00

TABLE V: Scales Created Based on Performance Attributes in Questionnaire

CHILD DEVELOPMENT	CAREGIVERS
Basic learning skill development	Qualifications
Social skill development	Turnover
Self-help skill development	Caregiver absenteeism
Values learned	Supervision
Cooperative development	Fair treatment
Happiness children experience	Attentiveness to child
Child's progress assessments	Handling of accidents
Frequency of progress assessments	
Parent-caregiver communication	
Learning environment	

PROFESSIONAL RELATIONSHIP	SCHEDULING
Parent-manager communication	Schedule flexibility
Management competence	Operating hours
Openness to feedback	Application of sick policy to child
Responsiveness	
Sense of importance	
Understands your needs	

FACILITIES & EQUIPMENT	FEES
Décor of facility	Fee type 1
Toy quality	Fee type 2
Cleanliness of facility	Fee type 3
Layout of facility	Fee type 4
Furniture in facility	

Note: Attribute groupings created through Factor Analysis (via parent components). Headings were manually assigned by the authors based upon common themes for the attribute groupings. Attributes listed are those with loadings of 0.5 or greater.

TABLE VI: OLS Regression Analyses: Attribute Satisfaction as a Predictor of Overall Satisfaction by Child Age Group

	IV	B	S.E.	Beta	t	Sig.	R	R Square	Adjusted R Square
Age 1							0.69	0.48	0.46
	(Constant)	7.93	0.12		63.79	0.00			
	Child Develop.	**0.51**	**0.15**	**0.21**	**3.45**	**0.00**			
	Professional Relationship	**0.75**	**0.11**	**0.41**	**6.73**	**0.00**			
	Caregivers	**0.56**	**0.13**	**0.27**	**4.45**	**0.00**			
	Facilities+Equipment	0.17	0.13	0.08	1.29	0.20			
	Scheduling	**0.46**	**0.10**	**0.27**	**4.39**	**0.00**			
	Fees	**0.48**	**0.13**	**0.21**	**3.63**	**0.00**			
Age 2							0.84	0.71	0.70
	(Constant)	8.04	0.07		110.97	0.00			
	Child Develop.	**0.58**	**0.07**	**0.32**	**7.93**	**0.00**			
	Professional Relationship	**0.69**	**0.06**	**0.41**	**10.68**	**0.00**			
	Caregivers	**0.91**	**0.07**	**0.51**	**13.27**	**0.00**			
	Facilities+Equipment	**0.47**	**0.08**	**0.23**	**5.92**	**0.00**			
	Scheduling	**0.61**	**0.07**	**0.34**	**8.59**	**0.00**			
	Fees	**0.35**	**0.07**	**0.19**	**4.92**	**0.00**			
Age 3							0.72	0.52	0.51
	(Constant)	7.85	0.10		82.60	0.00			
	Child Develop.	**0.59**	**0.09**	**0.31**	**6.55**	**0.00**			
	Professional Relationship	**0.61**	**0.11**	**0.27**	**5.80**	**0.00**			
	Caregivers	**0.71**	**0.10**	**0.35**	**7.32**	**0.00**			
	Facilities+Equipment	**0.55**	**0.10**	**0.27**	**5.67**	**0.00**			
	Scheduling	**0.47**	**0.11**	**0.21**	**4.28**	**0.00**			
	Fees	**0.55**	**0.09**	**0.28**	**5.84**	**0.00**			
Age 4							0.74	0.55	0.54
	(Constant)	8.04	0.09		89.63	0.00			
	Child Develop.	**0.60**	**0.08**	**0.34**	**7.17**	**0.00**			
	Professional Relationship	**0.58**	**0.09**	**0.29**	**6.14**	**0.00**			
	Caregivers	**0.79**	**0.09**	**0.40**	**8.54**	**0.00**			
	Facilities+Equipment	**0.60**	**0.08**	**0.36**	**7.70**	**0.00**			
	Scheduling	**0.21**	**0.10**	**0.10**	**2.15**	**0.03**			
	Fees	**0.46**	**0.08**	**0.26**	**5.57**	**0.00**			
Age 5							0.74	0.55	0.54
	(Constant)	8.10	0.10		80.14	0.00			
	Child Develop.	**0.68**	**0.10**	**0.34**	**6.59**	**0.00**			
	Professional Relationship	**0.86**	**0.10**	**0.44**	**8.76**	**0.00**			
	Caregivers	**0.64**	**0.09**	**0.34**	**6.78**	**0.00**			
	Facilities+Equipment	**0.36**	**0.09**	**0.20**	**3.83**	**0.00**			
	Scheduling	0.10	0.10	0.05	1.00	0.32			
	Fees	**0.39**	**0.10**	**0.20**	**3.85**	**0.00**			

Note: Bold results indicate significance at $p < 0.05$.

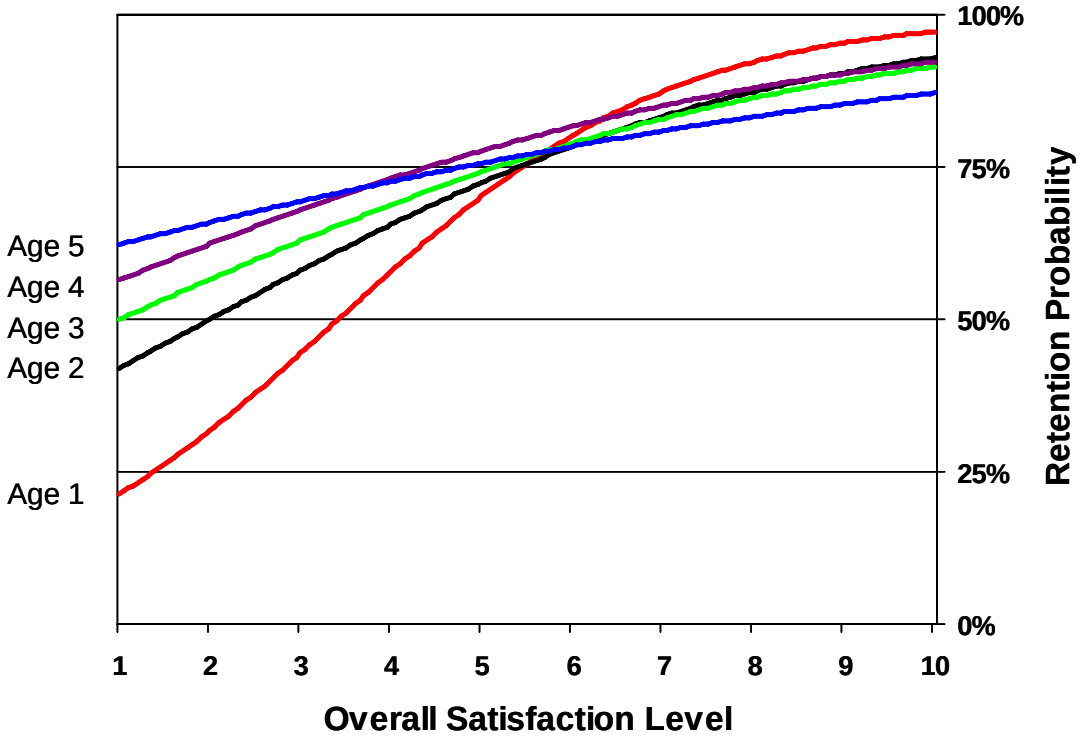
TABLE VII: Comparison of OLS Regression Results Across Different Age Groups: Rankings of Attribute Satisfaction as a Predictor of Overall Satisfaction

	AGE GROUP									
	1		**2**		**3**		**4**		**5**	
	Sig.	**Rank**	**Sig.**	**Rank**	**Sig.**	**Rank**	**Sig.**	**Rank**	**Sig.**	**Rank**
Child Development	√	5	√	4	√	2	√	3	√	3
Professional Relationship	√	1	√	2	√	4	√	4	√	1
Caregivers	√	2	√	1	√	1	√	1	√	2
Facilities & Equipment	×	6	√	5	√	5	√	2	√	5
Scheduling	√	3	√	3	√	6	√	6	×	6
Fees	√	4	√	6	√	3	√	5	√	4

√ = p <= 0.05 level

Note: The rankings were determined in order of magnitude of importance.

FIGURE 1: Probability of Agency Retention by Overall Satisfaction Level of Parent



ENDNOTES

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[1] K-J is a Japanese management technique designed to generate a hierarchical tree diagram of data. In this exercise, a team organizes a list of needs by group consensus. It uses a bottom-up approach, organizing the most detailed needs, and then seeing higher levels of organization in those groupings.

[2] Because correlations analysis is a measure of the linear relationship in the data.

[3] Nagelkerke's R-Square is the most-reported of the R-squared estimates. It is a modification of the Cox and Snell coefficient to assure that it can vary from 0 to 1. That is, Nagelkerke's R^2 divides Cox and Snell's R^2 by its maximum in order to achieve a measure that ranges from 0 to 1. Therefore Nagelkerke's R-Square will normally be higher than the Cox and Snell measure (Nagelkerke 1991).