

ANALYSIS OF PARENTS' SATISFACTION WITH PRE-SCHOOL EDUCATION IN UZBEKISTAN

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Abstract. The article analyzes indicators of satisfaction with the quality of preschool education in Uzbekistan. On the basis of an econometric analysis, factors were identified that influence parents' satisfaction with the quality of preschool education.

Index Terms— marketing research, remedies, research methods, early childhood education, quality of preschool education, parents' satisfaction, quality of pre-primary education.

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Introduction.

The modern education system requires that consumers begin to study the ideas of pre-school education as a key element of education.

Analysis of all scientific studies to date shows that parental satisfaction with the quality of pre-school education has shown that parents have differently expressed their satisfaction with the quality of education provided to their children. There was also a change in the level of satisfaction with the type of pre-school institutions and place of residence of parents. Much of the research has been done on the topic of "demographic characteristics of parents, the quality of preschool education based on the type of school, the relationship between educators and parents, the quality and satisfaction of pre-school education." [1]

2. Literature Review.

Due to the importance of parents' satisfaction with the quality of education in increasing child adoption rates in preschool programs, many studies have been conducted on parental satisfaction from preschools around the world. Research shows that many developed countries lead to greater efficiency in pre-school education. For example, in 2014, in preschool education programs in the Organization for Economic Co-operation and Development (OECD), the enrollment rate of children aged 3-5 years was 85%. [2].

Sharon Wolfa, Edward Tssinigob, Jere Behrmanc, and J.Lawrence Aberd (New York, 2017) In collaboration with representatives from the University of Pennsylvania, 344 observations of children, parents and teachers were conducted in Ghana to improve the quality of education. .

According to the UNICEF MICS 2013 household questionnaire, interviews with 25 educators and 25 teachers were conducted to find out about their living conditions, food security at home, teachers' knowledge, skills development and working conditions. Assessment of Early Childhood Development and Early Education Through the IDELA tool, children can directly report on social and emotional development, self-awareness, friendship, conflict and problem-solving, conflict resolution, hard work, pleasure, motivation and interests through key indicators of early childhood development. learned. Based on the results obtained, parents and teachers need to improve their knowledge and skills to improve the quality of education in a kindergarten in Ghana. [3]

Zhang, L.-F., Moore, L., & Lin, Y.-M [3] A study of the demographic characteristics of preschoolers in Taiwan regarding the extent to which parents are happy with their children's pre-school services. The survey included questionnaires from 810 parents of 3-5-year-old children enrolled in 20 public and 16 pre-school institutions in Taiwan. The questionnaire includes characteristics of the curriculum, teacher characteristics, interactions, curriculum, safety, health and physical environment, and assessment criteria for parents to identify and familiarize themselves with the quality of child care programs.

The questionnaire asked for demographic information of parents, age, marital status, education level, employment status, household income, and number of family members. All data were statistically analyzed, frequencies and percentages were used for the analysis of numerical and nominal data, and standard deviations and means for quality indicators and

categories were determined. First of all, correlation analyzes were performed to determine the presence of small-scale relationships. Demographic descriptors performed Manova's test for "differential variance" to compare the category and to assess whether there was a general difference between groups. A paired "T" test was used to determine the difference between parents' assessment quality and their satisfaction with child care programs. The results showed that parents were satisfied with today's preschool programs. As a result of the research, recommendations for effective communication in teacher-parent relationships are provided.

Daphina Libent [1] The purpose of the study in Tanzania was to study parents' satisfaction with the quality of pre-school education and to analyze the factors that affect them. A total of 829 parents of preschoolers aged 5-6 were interviewed using a random four-point Likert scale. Anova test was used to analyze the variables, using bivariate correlation and regression analyzes, and the significance level tested for each hypothesis was .05. The study found positive and meaningful relationships between parents about "quality perception and satisfaction with preschool education".

This scientific novelty is recommended by the Ministry of Education to take appropriate measures to improve the preschool education and allocate resources to meet the needs of parents. In addition, it was concluded that principals and teachers of preschools should strengthen their cooperation with parents.

Menon.A. Barriers [4] Learned Problems in Early Childhood Stages with the participation of 150 parents from Mumbai. There were significant differences in satisfaction levels among 36 of these parents, with 65.6% of parents experiencing problems and barriers at an early age level and were reported to be very dissatisfied. This study explores the impact of parents' ability to engage with their children in early childhood education, the impact of "parental involvement" on the quality of education of a child. The present study evaluated parents' perceptions of one dimension of quality as "parental involvement", while this study evaluated various aspects of parental consent quality. Menon believes that fathers have problems with managing their long hours and time, and that mothers tend to manage their time better to help their children learn because mothers are more professional than fathers.

OB Savinsky [5] The main purpose of the researcher's marketing research was to develop comprehensive parenting techniques and methods

needed to assess the quality of preschool education. The empirical database of the study was interviews and interviews with about 30 parents in a courtyard courtyard and online social networking sites. From these interviews, it was concluded that parents should recognize the high status, value and importance of educators as their primary partners and advisors in raising children, and that the level of caregivers should be reflected in their respective material rewards for being up-to-date calculations.

J. Anthony, K. Manship, C. Liu, and S. Muenchow (California 2008) studied future demand for public and private preschools in California and the issues related to the assessment of supply and demand for preschool education. It also analyzes the results of a study on increasing demand by improving the quality of pre-school education and highlights how the use of a survey to determine the demand for pre-school education can be highly effective. [6]

Sheldon Shaeffer (2015) studied the problem of increasing demand for pre-school education and developed policies and strategies to increase demand by improving the quality of preschool education. [7]

Sam M. Walton (Northwest Arkansas 2016) explores the challenges of evaluating and evaluating demand and supply for early childhood education. He analyzed the predictions of demand and supply for early childhood education in the next 5-10 years. [8] Researchers in field of textile small business was researched by economists as well as Boltabaev B., Kryvyakin K., Hakimov Z., Tursunov B. [14-23] and others.

3. Methodology.

Marketing surveys have used social survey and surveillance methods, which are the most effective data collection methods. Accordingly, the following research tools were used to study the satisfaction with the quality of pre-school education among parents of children aged 3-6 in Uzbekistan:

- ◎ Social Survey
- ◎ Interview
- ◎ telephone inquiries

The questionnaire was used to prepare the questionnaire by the Liquid scale (developed by Rensis Likert) [9]. The limit points for the Layquert scale are "very unsatisfactory" and "very unsatisfactory", and respondents are asked to choose one of five possible answers, for example: 1 = very dissatisfied, 2 = unsatisfactory, 3 = moderate, 4 = satisfactory, 5 = very satisfactory. . The questionnaire also asked 15 different types of

questions related to pre-school and parents' satisfaction with preschool education.

Statistical analysis of the results of a sociological survey to determine the level of consumers' satisfaction with the quality of preschool education is carried out. Statistical analysis requires first to check the Cronbach's alpha test results based on the statistical software package SPSS 22, in order to determine the level of reliability of social survey results by consumers. Sampling of questionnaires was conducted by examining the feasibility of Alpha Cronbach (α) based on the KMO and Bartlett's test of sphericity module SPSS Statistics. [10] The results of the statistical survey describing the feasibility of the consumer survey results should be based on the eligibility threshold ($\alpha = 0.65$) to select the results of the survey.

The analysis of consumer satisfaction with pre-school education requires not only a generalized indicator - but also an estimate of how different these amounts are from their average.

In determining it, it is usually determined by means of variation, namely the vibration width, standard error, and the calculation of variance coefficients. The results of the calculation of variance coefficients help us to determine the extent of variation in the overall results of the factors studied.

Typically, the most common variance in socio-economic processes is the squared variance.

It describes the degree of dispersion, that is, how different the character units in a collection are from the average. Therefore, the dispersion (r) is the square of the difference. This can be determined by the analysis of the dispersion.

The dispersion analysis was introduced by Fisher in 1925 and has since become widely used in statistics and many other studies. The analysis of variance is a method of mathematical statistics, which investigates the amount of variance in mean values that are used to find the dependence on the experimental data. Compared to the t-criterion, compares the mean values of three or more groups. R. Designed by Fisher to analyze the results of experimental studies. The term appears in the literature as ANOVA (Analysis of variance).

Analysis of variance (ANOVA) is a method for assessing the role of factors by attributing the variability of traits to the variables under investigation for unknown reasons.

The use of statistical software packages for conducting analysis can facilitate calculation and assimilate accuracy. Accordingly, a statistical analysis software package SPSS 22 uses data obtained from the consumer MDG questionnaire to perform a dispersive analysis of the extent to which the quality of pre-school education depends on the quality of selected factors. The classification of the selected variables is shown in Table 1 below

Table 1

Classification of variables for dispersive analysis

No	Factors	Marker	Classification
Dependent variables – Y			
1.	Type of preschool	y_1	The types of preschools are defined in two groups: state and non-state pre-school institutions
2.	Parents' Qualifications	y_2	Parents' qualifications are divided into two groups: higher and secondary education
3.	The gender of the parents	y_3	Parents are divided into men and women by gender and based on the hypothesis that there are differences in the performance of preschools
4.	The parents' place of residence	y_4	Parents' living quarters are also divided into two groups: urban and rural.
5.	Parent income	y_5	Parents' profitability is divided into two 4 groups, namely: low, medium, high, and high income, with a different assessment of the performance and quality of preschools.
Independent variables – X			
6.	Additional educational services	x_1	Results of Parental Satisfaction Level 4 on the Leikert scale
7.	Room equipment	x_2	Results of Level 4 of the Layert scale for parents' satisfaction with the conditions and equipment in MTC rooms
8.	Health promotion activities	x_3	Results of Parental Level Satisfaction with Health at MDG Level 4 on the Layert scale
9.	Management	x_4	Results of Parental Level 4 Satisfaction with Parental Guidance

	attitude		and Response
10.	Food	X ₅	Results of a 4-point scale of Liquid and Child Satisfaction of parents at MDCs
11.	The quality of education	X ₆	Results of Parental Level Satisfaction with Parental Education at Level 4 of the Layert scale
12.	Qualifications of the tutor	X ₇	Results of parents' satisfaction with the knowledge and skills of the educator at the MDC on the 4-point scale of the Likert scale
13.		X ₇	Results of Parent Level 4 Satisfaction Level of Parents' Satisfaction with Current Activities

The results of the analysis allow us to identify only the most important factors in the satisfaction of parents with the quality of preschool education and to identify specific patterns of how these factors are linked. [11]

It is well known that the results of the analysis of the analyzes are limited to examining the significance of the factors, and they do not provide conclusions as to how the factors influence the satisfaction of different groups of parents on the quality of preschool education.

Accordingly, based on the results of the analysis, the following hypotheses were identified:

H1 - Parents' satisfaction with the quality of pre-school education varies with the type of pre-school institution and has the highest impact;

H2 - Parents' satisfaction with the quality of pre-school education depends on their level of competence and high impact;

H3 - Parents' satisfaction with quality of pre-school education depends on their place of residence and high impact;

H4 - There are differences in the level of satisfaction with the quality of preschool education for male and female parents and have a high degree of impact;

H5 - Parents' satisfaction with quality of pre-school education depends on their level of profitability and high impact.

The variables selected for the scientific justification of hypotheses are based on Table 1.1. According to the hypotheses, selected variables are categorized as follows: by sex, by income, by region of residence.

In marketing research, discriminant analysis methods are often used to compare and contrast differences between groups of consumers. Discriminant analysis is used in marketing where one of the variables is categorized, and the

independent variables allow evaluating variables with different intervals. [12]

The function of classifying the dependent variables by creating a linear combination of independent variables is the discriminant function, which we describe as follows.

$$D = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 \dots + b_nx_n \quad (1)$$

here,

D - discriminant indicator;

b - the discriminant coefficient weighted by independent variables;

X - independent variables;

The variables (X) selected by calculating the discriminant variables based on the function (1) are divided into different categories of variables (X) with respect to the variables. Discriminant analysis includes five steps:

1. Set a goal, identify independent variables;
2. Calculation of the discriminant function;
3. The importance of the functions obtained is checked;
4. To check the state of multicollinearity based on correlation coefficients on selected variables;
5. Determination of efficiency.

We base the discriminant analysis on the hypotheses that are derived from each of the variables identified by the SPSS statistical package software.

H1 - Hypothesis Analysis.

To substantiate the first hypothesis, a discriminant analysis was performed to determine whether parents' satisfaction with the quality of pre-school education differed and was highly influenced by pre-school education. The mean and standard error results for the type of preschool educational institution selected as the dependent variable and the factors (Qn) taken as influencing factors are calculated according to Table 2. The data show that the mean values across groups have higher results than non-state preschools, with the standard error rate being higher. From this, it is

evident that parents are more satisfied with non-state pre-school education than in state preschools.

Table 2

Group statistics by type of pre-school institutions

Mean values per group								
Mean values per group	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
State	2,22	2,5718	2,5579	2,5551	2,9749	2,2985	2,6583	2,5384
Non-state	3,68	3,6114	3,7314	3,6229	3,6343	3,8229	3,6629	3,8000
Total	2,51	2,7758	2,7881	2,7646	3,1043	2,5975	2,8554	2,7859
Standard error								
State	,91343	,78352	,88662	,82309	,77635	,75868	,66778	,73822
Non-state	,52566	,52291	,49350	,49775	,50625	,43884	,55247	,51417
total	1,02871	,84696	,94694	,87909	,77655	,93114	,75978	,86073

In the discriminant analysis, tests evaluating the statistical significance of the selected variables were calculated according to Table 3. The value of Wilks' Lambda statistics varies in the range [0.1]. If the Wilkes statistics value is close to 0, this means that there is good discrimination, if 1 is a divorce feature, and that the p-value is 0.05, which means that the error is less likely to occur. In our example, the Wilks' Lambda test assumed different values for selected factors. This indicates a low level of discrimination on selected factors.

The F criterion $df1 = 1$ and $df2 = 892$ assumes a table value of 3.86 with a "p-value" of 0.05, and $F(\text{true}) \geq F(\text{table})$ has the strongest effect $F(\text{true})$ on the outcome character. In the case of $F(\text{table})$, it is concluded that the observed variable is not "dependent" on the outcome factors. In our example, it was confirmed that all factors can be regarded as significant factors in accordance with F criteria (Table 3).

Table 3

Results of the group significance test

Factors	Wilks' Lambda	F	df1	df2	Sig.
Q1	,685	410,077	1	890	,000
Q2	,762	277,762	1	890	,000
Q3	,758	284,884	1	890	,000
Q4	,767	270,241	1	890	,000
Q5	,886	114,322	1	890	,000
Q6	,577	652,821	1	890	,000
Q7	,724	339,260	1	890	,000
Q8	,661	456,853	1	890	,000

The correlation matrix is constructed in Table 4 to address the functional connectivity of selected factors influencing the identified dependent variable and the problem of multicollinearity. Since the correlation between the

factors assumed zero values, there was no multicollinearity between the selected factors and it was confirmed that the model was acceptable for all.

Table 4

Correlation matrix of factors

Factors	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Q1	1,000	-,199	,113	,022	,104	,098	-,021	,056
Q2	-,199	1,000	-,035	,092	,200	,089	-,047	,110
Q3	,113	-,035	1,000	-,090	,214	,174	,004	,176
Q4	,022	,092	-,090	1,000	,060	,042	,008	,166

Q5	,104	,200	,214	,060	1,000	,143	-,052	,252
Q6	,098	,089	,174	,042	,143	1,000	-,052	,135
Q7	-,021	-,047	,004	,008	-,052	-,052	1,000	-,052
Q8	,056	,110	,176	,166	,252	,135	-,052	1,000

It is established that the dependent variables with the selected classification are significant by assessing the canonical discriminant function. When calculating and analyzing the coefficients of the discriminant function, the values of the functions obtained should be as clear as possible. In this case, we estimate the correlation of the dependent variables on the basis of the cononic correlation. In our example, the cononic correlation coefficient assumed a value of 0.846, with a

squared value of 0.71 and a basis of 64% variance. This means that the bond is strong and the correlation is satisfactory. "Eigenvalue" value is the ratio of the sum of squares between groups to the sum of squares in groups. This assumed a value of 2,524. This means that the difference between the groups is greater than the difference between the groups. This figure indicates the high variance between discriminant functions (Table 5).

Table 5

The canonical determinant function value

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	2,524 ^a	100,0	100,0	,846

The canonical determinant is based on the Wilks' Lambda test of the value of the function, with a value of 0.284 which justifies the conclusion that there is good discrimination. The first hypothesis (H1) on which Wilks' Lambda test results is based

on the fact that parents' satisfaction with the quality of pre-school education has differences and is highly influenced by the type of preschool (Table 6).

Table 6

Wilks' Lambda test results

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	,284	1116,118	8	,000

The hypothesis that parents' satisfaction with quality of pre-school education varies with institution type and is influenced by two types of

non-normalized Kononic determinant function and cononic determinant function coefficients (7-8) - tables).

Table 7

Coefficients of unconnected cononic determinant function

№	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1- функция	0,433	0,389	0,237	0,259	-0,071	,404	0,445	0,286

Table 8

Cononic determinant function coefficients

№	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	(Constant)
1- функция	0,509	0,526	0,287	0,336	- 0,096	0,571	0,688	0,408	- 8,755

The cononic determinant function is as follows:

$$D_{\text{МММ тип}} = -8,755 + 0,509 Q_1 + 0,526 Q_2 + 0,287 Q_3 + 0,336 Q_4 - 0,096 Q_5 + 0,571 Q_6 + 0,688 Q_7 + 0,408 Q_8 \quad (3.2)$$

The model is a model that reflects the attitude of parents to the type of pre-school, and reflects what factors are most important for parents in choosing the type of pre-school. From the determinant

function, it is clear that the most important factor for parents' choice of pre-school education is the qualification of educators (0.688). This means that parents are more likely to choose the type of pre-school for their child. Nutrition status (0.096) was reported by parents as the most insignificant factor in the choice of pre-school education.

Cononic discriminant function, calculated by group, confirmed that parental satisfaction was

positive (higher than overall) for non-state, preschool educational institutions with a lower (negative overall) value for public pre-school institutions (Table 9).). It is evident from the fact that the values of the group-based Kononic

discriminant function are highly differentiated and that there is a significant discrepancy between the views of parents on state educational institutions and non-state educational institutions.

Table 9

Cononic discriminant function calculated by group

Type of preschool	Function
	1
State	-,784
Non-state	3,212
The canonical discrimination functions were evaluated by non-normalization grouping	

Discriminant function coefficients for each group can be calculated according to Table 10. The resulting functions allow parents to distinguish

between the factors of each type of preschool educational institution.

Table 10

Discriminant function coefficients

Кўрсаткичлар		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	(Constant)
мтм	давлат	3,010	4,389	2,484	3,380	2,823	2,745	7,091	2,556	-37,205
тури	нодавлат	5,043	6,493	3,632	4,722	2,438	5,029	9,842	4,187	-77,048

According to Table 10, the discriminant functions obtained are as follows:

$$D_{\text{давлат}} = 3,010 Q_1 + 4,389 Q_2 + 2,484 Q_3 + 3,380 Q_4 + 2,823 Q_5 + 2,745 Q_6 + 7,091 Q_7 + 2,556 Q_8 - 37,205 \quad (3.3)$$

$$D_{\text{нодавлат}} = 5,043 Q_1 + 6,493 Q_2 + 3,632 Q_3 + 4,722 Q_4 + 2,438 Q_5 + 5,029 Q_6 + 9,842 Q_7 + 4,187 Q_8 - 77,048 \quad (3.4)$$

Separate discriminant functions of parents to determine the level of satisfaction with the type of pre-school educational institutions can be used to

make decisions about establishing targeted strategies for increasing the coverage of preschool education. According to the function, parents' satisfaction with the type of pre-school education is higher than that of public pre-school institutions, except for quality nutrition (Q5) for non-state preschools. The position of the observations chosen for the discriminant function analysis was 97.2% targeted, indicating that the survey results were reliable and that almost all observers were covered (Table 11). Thus, the predictability is 97.2 percent.

Table-11

The classification of the observations selected for the discriminant function analysis^a

Indicators	Type preschool	Comparative observations by selected groups		Total
		State	Non-State	
In value	State	698	19	717
	Non-state	6	169	175
In percentage	State	97,4	2,6	100,0
	Non-state	3,4	96,6	100,0

a. - target classification of 97.2% of the total result.

In summary, the satisfaction of parents with the quality of pre-school education varies and is highly influenced by the type of preschool. Parents are more satisfied with the activities of non-state preschools than state preschools, providing them with additional educational services, premises, health care, parental management, nutrition, teaching quality, the level of competence of educators, and child care providers. development activities.

The results of discriminant analysis of parents' satisfaction with the quality of preschool education depend on their level of competence and their impact on the H2 - Hypothesis. According to the results of the group-based conjunctive discriminant function, parental satisfaction is perceived as negative (higher than overall) by accepting a lower (negative) value for higher education. From this, it is clear that parents with higher education are not satisfied with the quality of educational services, there is little difference between secondary and higher education, and there is no significant difference between higher and secondary education. Based on the discriminant function obtained, there are only significant differences in the equipment of the rooms (Q2) and the views of parents with higher and secondary education on the health (Q3).

Overall, the H2 hypothesis, based on 56.6% of observations, was rejected by the hypothesis that parents' satisfaction with preschool quality was dependent on their qualifications and had no effect;

High quality education requires high profitability. Parents with tertiary education aspire to provide the best and the best quality preschool services for their children, whereas secondary educated parents in the Kohl, Lengua, McMahan, and Mwoma [11] studies only benefit their children from preschools that provide high quality educational services. they were unable to give because they were less educated. Secondary-educated parents are less likely to influence preschool performance, and such studies are based on JINN and Walter (2008), Legg (2009), and Danner (2012) [12] studies suggesting higher secondary education is more satisfied with higher education. The hypothesis in our case study was based on this. The main reason for this is that there is little difference in the level of income between higher and secondary special education.

Parents' satisfaction with the quality of pre-school education is examined by urban and rural parents as a categorical variable in determining whether they are dependent on their place of residence, as well as their differences. The results

of the H3 - H2 hypothesis analysis based on SPSS are shown in Appendix 2.

The hypothesis that there are differences in the quality of preschool education of urban and rural parents is based on the following function to determine the significance of each variable in the common factor attribute by the coefficients of two types of normalized and non-normalized Kononic determinants:

$$D_{\text{yinnu xoin}} = -6,886 + 0,004 Q_1 + 0,274 Q_2 + 0,265 Q_3 + 0,427 Q_4 + 1,158 Q_5 + 0,080 Q_6 - 0,238 Q_7 + 0,385 Q_8 \quad (3.5)$$

From the determinant function, it is clear that the most important factor for parents' choice of pre-school education is the child feeding rate (1,158). There are high differences in the satisfaction of parents in urban and rural areas with pre-school feeding, suggesting the importance of this. Additional education services (0.004) were found to be the least significant factor for parents' choice of pre-school education.

Cononic discriminant function, calculated by the group, confirmed that parental satisfaction was lower (negative than overall) with respect to urban educational institutions and positive (higher than overall) for rural educational institutions.

The discriminant functions obtained for each group are as follows:

$$D_{\text{shahar}} = 0,227 Q_1 + 2,076 Q_2 + 1,465 Q_3 + 2,437 Q_4 + 5,787 Q_5 - 0,221 Q_6 + 2,813 Q_7 + 1,126 Q_8 - 19,288 \quad (3.6)$$

$$D_{\text{qishloq}} = 0,237 Q_1 + 2,718 Q_2 + 2,085 Q_3 + 3,438 Q_4 + 8,499 Q_5 - 0,033 Q_6 + 2,255 Q_7 + 2,027 Q_8 - 34,371 \quad (3.7)$$

The H4 hypothesis was based on the fact that separate discriminant functions of parents to determine the quality of pre-school education were used to decide on strategies for increasing the coverage of preschool education in urban and rural areas.

The position of the observations selected for the discriminant function analysis was 89.1% targeted, indicating the reliability of the survey results and the fact that almost all observers were covered (Appendix 2). Thus, the predictability is 89.1 percent.

The results of the discriminant analysis, based on the SPSS program, to determine the level of satisfaction with the quality of preschool education for both male and female parents are presented in Annex 3.

In general, 54.1% of observations were rejected by the H4 hypothesis, suggesting that the results did not affect the satisfaction of male and female parents with preschool education quality;

A number of scientific studies, including Thao (2000), Werner (2011) and Lin (2012), have found that there is a significant difference between fathers and mothers in the assessment of preschool activity [13]. Evaluations of preschool activity by men are higher than mothers. However, in our study they found characteristics that were virtually indistinguishable from preschool education. In general, the results of the study suggest that it is possible to identify strategies that do not differ for parents in the involvement of the child in preschool education.

H5 - Parents' satisfaction with quality of pre-school education depends on their level of profitability and high impact factor as a multivariate discriminant analysis should be performed because there are four categories of variables related to the sample, ie low parental income. categorized as middle, high and very high incomes.

The results of the multivariate discriminant analysis obtained from the SPSS program to determine the level of satisfaction with the quality of pre-school education by parents' income levels are presented in Annex 4.

The results of discriminant analysis noted the higher scores of parents with higher incomes than parents of other categories, with the highest average of parents' average school performance. This is justified by the fact that high-income parents have a higher preference for the quality of pre-school education than low-income parents.

According to tests that assess the statistical significance of the variables selected in the discriminant analysis, Wilks' Lambdastatistics is based on the normal distribution of p-value with a value of 0.05, with a value of approximately 1 for negative factors (Table 12).

Table 12

Wilks' Lambda

Functions test results	Wilks' Lambda	Chi-square	df	Sig.
1- Functions	,739	268,022	24	,000
2- Functions	,982	15,853	14	,322
3- Functions	,993	6,223	6	,399

The H4 hypothesis was based on the fact that separate discriminant functions of parents to determine the quality of pre-school education were used to decide on strategies for increasing the coverage of preschool education in urban and rural areas.

The position of the observations selected for the discriminant function analysis was 89.1% targeted, indicating the reliability of the survey results and the fact that almost all observers were covered (Appendix 2). Thus, the predictability is 89.1 percent.

The results of the discriminant analysis, based on the SPSS program, to determine the level of satisfaction with the quality of preschool education for both male and female parents are presented in Annex 3.

In general, 54.1% of observations were rejected by the H4 hypothesis, suggesting that the results did not affect the satisfaction of male and female parents with preschool education quality;

In a number of scientific studies, including Thao (2000), Werner (2011) and Lin (2012) and others, there is a significant difference between fathers and mothers in the assessment of preschool activity F criteria $df_1 = 1$ and $df_2 = 888$ observations "p-value. 0,0 0.05 assumes a table value of 3.86 and

that $F(\text{true}) \geq F(\text{table})$ can be regarded as a significant factor $F(\text{true}) \leq F(\text{table})$ with the effect of the factors applied to the variable being studied confirmed. Due to the correlation and covariance of the factors chosen for the model, multicollinearity is absent.

Taking into account the above, H5 - Parents' satisfaction with the quality of pre-school education is based on their level of profitability and the hypothesis is rejected.

However, based on the results of the analysis for each group, the following functions can be created to identify the most important factors in terms of parental income and to measure the impact of the factors:

$$D_{\text{past}} = 0,517 Q_1 + 1,768 Q_2 + 0,939 Q_3 + 1,604 Q_4 + 3,179 Q_5 - 0,138 Q_6 + 3,551 Q_7 + 0,493 Q_8 - 17,636 \quad (3.8)$$

$$D_{\text{orta}} = 0,770 Q_1 + 1,609 Q_2 + 0,960 Q_3 + 1,833 Q_4 + 3,107 Q_5 - 0,055 Q_6 + 3,601 Q_7 + 0,502 Q_8 - 18,668 \quad (3.9)$$

$$D_{\text{yugori}} = 1,166 Q_1 + 1,865 Q_2 + 0,995 Q_3 + 1,715 Q_4 + 3,063 Q_5 + 0,174 Q_6 + 3,221 Q_7 + 0,502 Q_8 - 21,080 \quad (3.10)$$

$$D_{\text{juda,yuqori}} = 1,373 Q_1 + 2,129 Q_2 + 1,027 Q_3 + 1,980 Q_4 + 2,780 Q_5 + 0,442 Q_6 + 4,158 Q_7 + 0,921 Q_8 - 25,670$$

(3.11)

Parents' satisfaction with the quality of preschool provides an opportunity to distinguish between the determinant functions derived from established factors. Evaluations of the activities of preschools on the level of parents' income based on the functions (3.8), (3.9), (3.10), (3.11) indicate that strategic decisions can be made that allow them to increase child coverage.

According to the compiled functions, the main factors that affect the satisfaction of all pre-

school groups by parents are the quality of education (Q5) and teacher education (Q7).

Notably, pre-school education has increased satisfaction with additional educational services (Q1), wellness measures (Q3) and child development (Q8), with increasing income.

In general, 41.8 percent of observations are based on the H5 hypothesis, which is based on the assumption that parents' satisfaction with the income level has a high impact on the quality of pre-school education.

Based on the results of the discriminant analysis, the factors that influenced parental satisfaction with the quality of preschool education were analyzed (Table 13).

Table 13

Parents' Satisfaction with Preschool Quality taking into account the influencing factors a model for increasing child coverage

Hypotheses on discriminant analysis	Significance of the factors	The difference	The sphere of influence	Hypothesis
H1 - Parents' Satisfaction with Preschool Quality -> Type of Preschool	It is important	Available	High	
H2 - Parental Satisfaction -> Parental Education	And it doesn't matter	Not available	High	Accepted
H3 - Parents' Satisfaction with Preschool Quality -> Parent's Place of Residence	It is important	Available	High	Not accepted
H4 - Parental Satisfaction -> Gender of Parents	And it doesn't matter	Not available	Low	Accepted
H5 - Parents' Satisfaction with Preschool Quality -> Parent Profitability	It is important	Not available	High	Not accepted

According to the results of the research, it is important not only to increase the number of pre-school institutions, but also to increase the satisfaction of parents in the quality of pre-school education. Improvement of factors contributes to their satisfaction with the quality of education. This will increase the coverage of children in preschool education.

Consumers want to further improve the quality of educational services in preschools, but also to expand their range. It is also necessary to create a competitive environment among private non-state preschools and to reduce the cost of parents' fees.

Based on the results of discriminatory analysis on the development of marketing strategies to increase the coverage of preschool education, it is necessary to pay special attention to measures to increase the number and expansion of

non-state preschool educational institutions, to further improve the quality of education and training in public preschools; It was concluded that

Observing the standards of educational services in preschools and improving the quality of educational services based on the model of increasing child coverage with regard to factors that positively affect parental satisfaction with the quality of preschool education, as well as parental demand and It is recommended to the ministries and departments for the purpose of creation of the system of consideration of wishes.

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