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International Perspectives on Education Reform: Voucher Systems, School Education Quality, and Parental Choice in Bishkek

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ABSTRACT: If parents in the Kyrgyz Republic were allowed to choose schools freely, whether public or private, through a voucher system, would they make decisions based on the quality of education, as proponents of school choice assume? To evaluate the relative importance of academic quality over non-academic features, an original survey of 250 parents in the City of Bishkek, incorporating a conjoint experiment, was conducted. Pairs of hypothetical schools were presented, and parents were asked to choose which they would prefer for their children. The main finding is that while some non-academic features, such as the distance to school and the presence of friends, were influential, the most important factor explaining parents' choice was the academic quality of schools.

KEYWORDS: Parental choice, equal opportunities, voucher, quality of education, competition

I. INTRODUCTION

This paper examines parents' preferences for schools in Bishkek, Kyrgyz Republic, using an original survey of parents with school-age children. The country is seeking to implement reforms in the education sector to give parents a wider range of school choices. The need to integrate a voucher-like financing system for secondary education has been discussed in Kyrgyz society. The Prime Minister of the Kyrgyz Republic, Akylbek Japarov, mentioned in his February 2022 speech at the opening ceremony of a new school in the Orok district of Bishkek, "The system of payroll for teachers of educational institutions will be completely revised. We also want to introduce a voucher system in which teachers are paid based on the number of students they teach" (24.kg, 18 February 2022). Representatives of civil society also support a voucher-like system to assure the quality of education. The non-governmental organization KG Analytics (2022) states that "Kyrgyzstan needs a transition to a voucher-like system based on the principle of per capita financing." To provide a definition, "a voucher is a coupon that a student carries with him to the school of his choice, at least some of which are potentially private. When he enrolls, the school gets revenue equal to the amount of his voucher. Public money funds the voucher." (Hoxby, 2003, p. 14) Therefore, parents will have the opportunity to choose schools.

Thus, the following research question is investigated in our paper: Do parents prioritize education quality as proponents of the reform assume? Or would other, non-academic considerations - such as physical distance from home to school and the presence of friends - prevail? Despite the possibly profound consequences of the reforms, we have little information about what parents want and how they would make school choices. This research seeks to fill a gap in the state of knowledge by conducting an original survey of parents of children aged 7 to 18 who have reached secondary school age. The survey incorporates a *conjoint* experiment that asks parents to choose between pairs of hypothetical schools with attributes such as educational quality and non-academic features. This would allow us to examine the relative importance of education quality in influencing parents' choices.

Our research examines parents' school preferences, specifically investigating the relative importance of educational quality and non-academic features. In other words, this research examines whether and to what extent parents are interested in providing their children with high-quality education if they have the opportunity to choose schools. This is practically important because, unless parents prioritize educational quality, interschool competition to improve education will not occur. Thus, to determine whether the voucher system achieves its intended positive outcomes in the Kyrgyz Republic, understanding parents' preferences is crucial. Our research is the first academic research on parental choice in the Kyrgyz Republic. The voucher system has been used in developing countries such as Bangladesh, Chile, and Colombia, as well as in industrial countries such as Poland, Sweden, the U.K., and the U.S. Since there is no other direct government subsidy, each institution competes with every other eligible institution (Goyal, 2014). Academically, theories of school choice have been tested extensively in the United States and Europe, with some recent works in other countries. However, no such research has been done in the Kyrgyz Republic since its independence.

This provides an opportunity to test whether theories of school choice explain real-world parental choices in contexts beyond those in which they have been studied.

Our research incorporates a *conjoint* experiment, which is useful for understanding real-world choices involving multiple features (Yamamoto et al., 2014). *Conjoint analysis* is a tool for identifying the causal effects of various treatment components in survey experiments. In a conjoint experiment, respondents are presented with pairs of profiles (such as schools) that contain multiple attributes; each attribute can take multiple values, and one value is randomly selected. This tool has been used to analyze people's preferences and choices among goods and services with multiple attributes – such as consumers' choices of particular products and voters' choices of candidates in elections. If we ask parents for their opinion on each feature of the school (e.g., educational quality), they will most likely prefer high quality to low quality. However, in the real world, choices involve multiple dimensions, such as educational quality, physical proximity, the presence of friends, and more. The conjoint experiment can help us examine which feature is more influential on parents' choices when multiple features are present.

The National Assessment of Educational Progress (NAEP) for 2007, 2009, 2014, and 2017 found that more than 50 percent of students in the Kyrgyz Republic did not reach the basic level of achievement in reading, math, and science. According to Minister of Education and Science Gulmira Kudaiberdieva (2017), the results of the Program for International Student Assessment (PISA) for 2006 and 2009 (2017) revealed that 80% of schoolchildren have not met the minimum international standard in reading and comprehension, math, and science. Since most pupils demonstrated knowledge and skills that fell short of the specified requirements, the quality of education remains a challenge. Young people who lack functional literacy are more vulnerable, more likely to migrate frequently, to be unemployed, and more likely to engage in criminal activity and violent extremism (UNICEF KR).

To briefly describe the educational system of the country, according to the Law on Education of the Kyrgyz Republic, the general education programs include preschool education (normally 4-6 years from age 1.5 to 7); primary general education (from 1 to 4th grade, in the age 7-10); basic general education (from 5th to 9th grade, the age 10-14 years old); secondary general education (10-11 grades, at the age of 15-18 years old); and additional education. There are more than 100 public and around 70 private schools in Bishkek. All public schools are free and 100% subsidized by the state. All private schools are paid for by parents. The cost of private schools ranges from 1000 USD to 25000 USD per year. All schools are operated by the Ministry of Education and Science, except those in Bishkek City, which are administered by the City Office (Mayor).

II. ANALYSIS/DISCUSSION

1. Literature review

In this chapter, we provide a literature review. It first introduces studies that explain how parents' choices in developed countries influence the quality of education. These studies suggest that when the state monopolizes education services and parents and children lack choice, the quality of education deteriorates. It then reviews empirical studies of school choice to understand how parents choose schools when given a choice.

One of the most hotly contested public policy topics in the Western world over the past ten years has been the freedom of choice in education (Bunar, 2010). Parental choice drives schools to be more responsive to parents. When parents have choices, schools are held directly responsible and accountable to them; schools must propose the type and quality of instruction parents want, or they will not be selected. Parental school choice is appreciated as an approach for promoting, among other school-related goods, educational innovation (Dwyer, 2012).

The restructuring of the welfare state under new economic conditions to cut public spending, ideological shifts strongly supporting the imposition of the market logic into the public sector as a way to improve it, the close links between educational success and future labor-market position, and growing awareness among various parental groups about the significance of a school's status, reputation, and performance are some of the main factors driving this attention (Ball 2003; Plank and Sykes 2003; Apple 2006).

Researchers believe that free school choice in a free market will create a competitive system in which schools must continually improve their quality to attract more students (Altenhofen et al. 2016; Thelin & Niedomysl 2015). It means that if school choice is introduced, families can choose schools that best meet the student's educational needs (Wolf & Egalite, 2016). In other words, when parents and students can choose schools, less productive schools will lose students to more productive schools (Hoxby, 2003). The competition among schools to attract students and secure public funds is expected to improve educational quality. If education is monopolized by the state, schools can continue to receive students regardless of the quality. Therefore, the absence of competition will lead to a deterioration in educational quality. In competitive markets, local public schools are pressured to retain and increase enrolment (Cantu et al., 2021). Schools must raise their academic standards to compete in this market or risk closing. Harris and Larsen (2015) argue that it will also create equity, particularly equality among students across socioeconomic levels, by providing lower-income students with access to high-quality education.

In the rest of this section, we review experiences of school choice and related research in developed countries, including the United States and Sweden. For each country, we present the experience with school choice and review research on whether it has improved school quality.

School choice is one of the most important and hotly debated topics in education research and policy in recent years. Some even argue that it is the most important issue on the US national agenda (Chen & Sonmez, 2006). There are more and more options for parents to choose their child's school, with charter schools representing the fastest-growing sector (Berends, 2014; Berends, 2015; Berends et al., 2010; Schneider et al., 2000). More families have access to additional options as charter schools and schools of their choice grow increasingly widespread. Also, parents are asking which charter school to attend rather than just "public vs. charter school?" (Altenhofen et al., 2016). Charter schools must have a written performance contract with the authorized public chartering agency. They are autonomous and have greater flexibility in operations and management than traditional public schools (National Charter School Resource Center). Charter schools first appeared in Minnesota in 1991, and in 2019, West Virginia became the 45th state to allow their opening. In 2019, there were more than 7000 charter schools in the US.

School vouchers allow parents to choose a private school for their children, using all or part of the public funding set aside for their children's education. Such a program would provide participating families with a voucher to pay, in whole or in part, for their child's private school tuition, including both religious and non-religious options, using monies currently expended by a school district (EdChoice). There are sixteen States and two Districts with state-wide vouchers. In addition, in every state, there are local voucher programs – five in Ohio, four in Wisconsin, four in Mississippi and Louisiana, and one in the other states (EdChoice). For example, the State of Wisconsin has the Private School Choice Programs, which include four separate private school voucher programs: Milwaukee Parental Choice Program (MPCP); Racine Parental Choice Program (RPCP); Wisconsin Parental Choice Program (WPCP) and Special Needs Scholarship Program (SNSP). Bast and Walberg (2004, p.438) stated that "parents would do a better job selecting the schools for their children and that allowing schools to compete gives parents a chance to find the best schools for their children". According to Hoxby (2003), public schools faced competition from the introduction of choice, which increased their productivity. In other words, the educational quality increased thanks to school choice in the US.

Sweden implemented the most comprehensive school choice program ever seen in the Western world in the 1990s (Klitgaard, 2008). Independent providers could start new Free Schools after meeting a few basic regulatory requirements, and families were free to choose any school regardless of where they lived. This contentious change allowed for-profit companies to open schools. Before school choice was implemented, local towns in Sweden provided practically all of the country's educational services, according to Cowen (2019). The right for businesses and organizations to apply to open independent free schools, or Friskolor, and receive public support for each pupil who chooses to enroll was established by a center-right Moderate Party government in 1992. (Cowen, 2019). Such an open competition gave various actors the opportunity to establish more schools, thereby undermining the state's monopoly on education. Thus, the key characteristics of the Swedish school reform were the decentralization of schools, the transfer of state powers to local authorities, competition between schools, and local government financing of private schools at the same level as that allocated to students in public schools. Parents can choose schools with good academic performance anywhere, whether public or private (Niedomysl, 2015).

The fundamental implementation of the reform was successful, according to Cowen (2019). There were more than 250 Free Schools at the upper-secondary level in 2005, and approximately 600 Free Schools taught 74,000 students at the compulsory level (over 45,000 students). At the compulsory level, there were roughly 800 students (126,000 students) in 2013, while at the upper-secondary level, there were 450 students (85,000 students). That amounts to more than a tenth of kids enrolled in obligatory school and close to a third of upper-secondary pupils. Also, more than 2,500 preschools care for about 20 percent of all preschool children (Skolverket, 2014).

Determinants of parents' choice: academic and non-academic

This section discusses the factors parents consider when choosing schools for their children. The literature suggests that parents consider both academic quality and non-academic features. Academic quality includes the quality of teaching, teaching materials, teaching methods, and teachers. Non-academic features include the distance between home and school, school transport, meals, friends, relatives studying at that school, modern buildings, the cost of the school, and other factors. Cantu et al. (2021) explained that parents' school choice is influenced by 14 factors. These include supportive teachers and principals, capable instructors and administrators, safe and secure student environments, friendships among students, and a welcoming student body. They also include a strong core curriculum, more opportunities than in nearby districts, college preparation, access to technologies, a low bullying rate, and good facilities. Both academic and non-academic variables apply to this situation. The significance of each group of characteristics is determined by research, which we review.

- **Academic quality**

The vast majority of parents prioritize academic quality when choosing a school, believing their children will receive a better education. When determining whether a school is acceptable for their children, parents rank academic excellence at the top or very near the top of their list of priorities (Alsauidi, 2016). Altenhofen et al. (2016) state that one of the parents' main concerns

when choosing a school should be academic quality. According to Hsieh and Urquiola (2006), the debate on school choice assumes that the government, as a monopoly, cannot provide educational services efficiently; if choice is given to parents and the government monopoly is removed, the quality of services, most importantly the educational quality, should improve. Do parents behave as proponents of school choice assume, prioritizing academic quality?

Some papers argue that parents look for schools that perform better academically (Schneider & Buckley, 2002). For example, parents choose private schools for their academic and curricular reputations, discipline, and safety. In the USA, Kleitz et al. (2000) found that differences in the priorities parents place on academic qualities are the major factor leading to variations in the schools they choose. In the public-school arena, some research finds that many parents are dissatisfied with their zoned school's academic quality, safety, and convenience; among these, academic quality is the most important factor (Smrekar & Goldring, 1999; Hamilton & Guin, 2006). Charter school research suggests that parents tend to choose schools with smaller class sizes, believing they will provide higher-quality education (Schneider & Buckley, 2002).

A survey of parents and pupils conducted by Ručinskienė and Rupšienė (2006) in Lithuania demonstrates that the quality of education was an important determinant in choosing a school. They found that seeking a higher-quality education was the most important reason for school choice among more than half of respondents' pupils across all stages of education. They also found that the key motive for more than half of the pupils was to seek better-quality education when changing schools. Reasons for changing schools, as reported by pupils and their parents, are similar: in many cases, the search for higher-quality education is the primary one. In research conducted by Alsauidi (2012) in Saudi Arabia, most parents preferred private schools for academic reasons. Specifically, parents see private schools as higher quality than public schools in terms of class size (smaller), instruction quality (better), and student-teacher relationships (better).

- **Non-academic characteristics**

In addition to the academic quality, non-academic features of schools can be influential. According to Goldring (2008, p.213), "parents exercise choice in accordance with the priorities they place on academics, convenience, school characteristics, and safety." Convenience is an important factor for parents when choosing a school for their children. Cantu et al (2021, p.21) find that "parents choose schools for various reasons including safety measures, academic achievements, principal's leadership, school culture, extra-curricular opportunities, and/or the school district's history." Schneider and Buckley (2002, p. 139) mentioned that "geographic location, test scores, and student-body demographics are also indicators that parents choose while choosing schools for their children" in their work. In the US, where tuition at private schools continues to rise, limited government funding can limit parents' ability to exercise their freedom to choose where their children are educated (Russo & Ranieri, 2017). In this case, non-academic determinants are influencing the parents' choice.

In the research conducted by two researchers, Kundu and Das in 2014, we observe that, in order of importance, the top five elements that influence parents' decision-making are: Financial Constraints; Academic Performance; Distance of school from home; Other children from the locality/family also attend the same school; Attentive teachers/ discipline. Only two of the five are academic; the other three are non-academic. The first is a non-academic determinant, such as the cost of study; the third and fourth are the distances from home to school and to friends at school. It means that non-academic factors prevail when parents choose schools for their children.

Cantu et al. (2021) concluded that parents who have established positive relationships with the school tend to believe the school provides good education while keeping them safe. In other words, they find that safety is the top priority. Other features matter to parents, such as well-maintained buildings, accommodations like toilets, rooms, and the kitchen, the prominence of customer service, school culture, and the creation of a sense of belonging. Extracurricular activities and easy access to district leaders were also found to be critical to parents (Cantu et al. 2021). Therefore, in their study, non-academic determinants are the most important factors for parents when choosing schools. In Mawene and Bal (2018, p. 322), the main factors influencing parents were listed as follows: "accessibility of special education programs, class size, teachers' interpersonal characteristics, parent-teacher communications, personal attention, proximity, social continuity, as well as others".

Based on prior research and the current situation in Bishkek, we present our hypotheses.

H1: When choosing schools, parents pay most attention to the academic aspects of schools, specifically the quality of education. Second, non-academic features can also influence parents' choices. As discussed in the literature review, the following non-academic factors that may influence parents' choices are considered: distance from home to school, friends studying at the same school, and tuition fees.

H2: When choosing a school, parents pay attention to non-academic aspects, specifically the distance from home to school, availability of friends, and cost of the study. As we will discuss in detail, the relative importance of academic and non-academic features will be tested in our research using the conjoint experiment.

2. Data and method

To understand parents' preferences, an online survey was conducted from June 9 to September 26, 2022. The main criterion for selecting respondents is that they are parents of schoolchildren aged 7-18 who live in Bishkek. In the Kyrgyz Republic, there is only one category of "secondary school students", in which children from 7 to 18 years old are enrolled. A software program called *Conjoint.ly* was used for conducting the survey. We distributed the questionnaire to parents and schoolchildren through the Bishkek City Hall's Office and a local private survey company. Through the city office, we collected responses from 75 parents. The additional 175 respondents were recruited by the survey firm. Table 1 reports the main characteristics of the respondents.

Table 1: Characteristics of the respondents

Demographic Categories	N	Percentage
Gender		
Male	41	16.4
Female	209	83.6
Education		
School education	17	6.8
Secondary (college)	12	4.8
Higher education	220	87.9
Other	1	0.5
Month income (soms)		
up to 15 000	21	8.2
15 000-30 000	79	31.4
30 000-50 000	61	24.2
50 000-80 000	28	11.1
80 000 above	42	16.9
Don't want to answer	21	8.2
Age (years)		
30 years and younger	22	8,7
31-35	77	30,9
36-40	71	28,5
41-45	45	17,9
46 and older	35	14

Note: The number of observations is 250.

Our survey consists of 32 questions and can be divided into 3 parts. The first part consists of questions asking parents what they paid more attention to when choosing schools and how they make their school choices. The second part, explained in Section 3.2 in detail, is an experimental part where respondents are given two imaginary schools with different characteristics, such as paid or free tuition, availability of friends, location, and quality of education, in order to understand what aspects are important for parents when choosing schools for their children. The third part asks respondents about their background characteristics, such as age, monthly income, and their parents' education level.

Experimental design

In this section, the conjoint experiment will be explained. Since school choice involves trade-offs among various features, standard survey questions likely have limitations. If we ask about each feature individually, respondents would probably say each is important. However, real-world decisions involve choosing among alternatives with many features. In other words, people have to make compromises in their decisions in various situations. To conduct conjoint analysis, researchers must carefully design the experimental stimuli. This involves selecting the attributes and levels to include in the analysis, determining how many profiles to present to each respondent, and deciding on the presentation method (e.g., rating, ranking, or choice-based).

The design of the experiment can significantly impact the accuracy and validity of the results. For example, the number of attributes and levels included in the analysis should be limited to avoid overwhelming the respondents. The choice of levels should also be carefully considered to ensure that they are realistic and meaningful to the target audience. Other considerations in experimental design for conjoint analysis include the sample size, the sampling method, and the analysis technique to be used. By carefully planning and executing the experiment, researchers can obtain reliable and actionable insights into consumer preferences and decision-making processes (Green,1990).

The main idea of conjoint analysis is to understand how people make everyday choices among many attributes, each with many characteristics (Pelzer, 2019). Respondents participating in a conjoint survey experiment should choose from a list of profiles, each of which consists of a set of characteristics. Since we studied parents' preferences for schools, we presented a pair of schools (profiles) to the respondents. A profile consists of attributes, and in our experiment, each attribute can take at least three values. For each attribute, one value is randomly selected. Thus, each respondent is presented with a pair of profiles consisting of randomly selected attribute values. In other words, each respondent is presented with a pair of "unique" profiles. After viewing the two profiles, respondents are asked to indicate which one they prefer. Each respondent repeated this task five times.

To explain the attributes and levels in detail, we formulated a school profile comprising four attributes: quality of education, friends, distance to school, and school type and fee. These four attributes are selected because they are most suitable for testing whether and to what extent parents prioritize academic or non-academic aspects when choosing schools.

As summarized in Table 2, each attribute had at least three characteristics. Quality of education: above average, average and below average; friends: many friends, some friends and few friends; distances to school: 0.5 km, 1 km, 2 km, 5 km and 10 km; types of school and tuition fees: public school with tuition of 30 thousand soms, and private schools with 120 thousand soms, 160 thousand soms, and 200 thousand soms.

To make the situation more realistic, we asked respondents to assume the state provided them with a subsidy of 30 thousand soms for a child's education, regardless of whether they chose public or private schools. Currently, 30 thousand soms are given to public school students; since their tuition is 30 thousand soms, parents can send their children to public schools for free. This assumption, when inserted into the survey, allows us to understand parents' choices when the subsidy is expanded to private school children, which would be a realistic first step for the reform.

Table 2: Conjoint Attributes and Levels

Attributes	Levels
Quality of education (A1)	1. Above average (L1) 2. Average (L2) **3.** Below average (L3)
Distances (A2)	1. 0.5km (L1) 2. 1km (L2) 3. 2km (L3) 4. 5km (L4) 5. 10 km (L5)
Friends (A3)	1. Many friends (L1) 2. Some friends (L2) **3.** Few friends (L3)
Types of school and tuition fees (A4)	1. Public, tuition 30 thousand soms (L1) 2. Private, tuition 120 thousand soms (L2) 3. Private, tuition 160 thousand soms (L3) **4.** Private, tuition 200 thousand soms (L4)

Note: A1 indicates the first attribute (Attribute 1); L1 indicates the first level (Level 1).

Table 3 shows an example of a pair of profiles presented to the respondents.

Table 3: Example of a Pair of Schools Presented

Please imagine the government will give you an education ticket worth 30,000 soms per year per child. Which middle school, A or B, would you like to send your child to?

School "A"	**School "B"**
Quality of education Above average	*Quality of education* Average
Friends Some friends	*Friends* Many friends
Types of school and tuition fees Private tuition 120 thousand soms	*Types of school and tuition fees* Public tuition 30 thousand soms
Distances 1km	*Distances* 5 km

Note: The order of attributes is fixed for all the respondents. The level is randomly determined by software for each profile. Respondents were asked to select one of the two schools presented. This task was repeated five times for each respondent.

Methods

This study calculates the Average Marginal Component Effect (AMCE), which reports the change in the respondent's probability of selecting the profile (school) when a constant. Since the OLS is used, the regression coefficients express the AMCEs. In other words, AMCE determines the change in the respondent's probability of selecting a school when an attribute (such as educational quality) changes from the baseline level (below average) to the target level (above average). OLS can be used as a model to examine how attributes affect outcomes (Hainmueller et al., 2014).

OLS (ordinary least squares) is a statistical method used to estimate the parameters of a linear regression model. It does this by minimizing the sum of the squared differences between the predicted values of the dependent variable and the actual values (Wooldridge, 2019). The dependent variable is binary: 1 if the respondent selects the profile as the preferred option in the pair, and 0 otherwise. The independent variables are binary indicators for all attribute levels, with average quality and above-average quality included in the model, and the baseline is below-average quality. This enables us to assess the relative importance of attributes in influencing respondents' decisions to send their children to a particular school.

$$Y = \beta_0 + \beta_1 A_1 L_1 + \beta_2 A_1 L_2 + \beta_3 A_2 L_1 + \beta_4 A_2 L_2 + \beta_5 A_2 L_3 + \beta_6 A_2 L_4 + \beta_7 A_3 L_1 + \beta_8 A_3 L_2 + \beta_9 A_4 L_2 + \beta_{10} A_4 L_3 + \beta_{11} A_4 L_4$$

Note: In the equation, the dependent variable (Y) is the binary variable that takes the value of one if the school is selected, and the independent variables (β) are the attributes and their levels.

3. Findings and Analysis

This part reports the findings. It first describes parents' opinions obtained from direct questions. It then reports the results of the conjoint experiment conducted to understand the relative importance of academic and non-academic factors in influencing parents' choice.

Parents' Opinions from Direct Questions

The results of direct questions show that, in general, respondents pay attention to the quality of education when choosing schools. For example, when asked why they sent their children to a specific type of school (public, private, etc.), 50.7% of parents cited quality of education. In this question, respondents could choose more than one answer: other options included "location is convenient" (43%), "tuition is free" (42%), and "my child can find friends" (13%). This suggests that the quality of education is the most important factor for parents.

In addition, 70% of parents are satisfied with the quality of education at their children's school. 47.8% of parents believe the quality of education in private schools is better, while 44.4% believe it is better in public schools. Despite mixed views on whether public or private education is higher quality, the majority of respondents (80.7%) said their children attend public school. This is presumably because public school education is free.

In the Kyrgyz Republic, public school education is officially free; however, each school has parent funds that collect voluntary monthly contributions to support it (Kaktusmedia, 2022). Thus, although most parents send their children to public schools, 73.4% of respondents reported paying some amount each month for their children's education. This is typical in the main large cities.

We highlight a few findings. First, it is important for parents to choose a school for their children: 58.9% strongly disagreed or disagreed with the statement that parents should not choose which school their child will go to (Statement 2), while 87.4% agree or strongly agree with the view that parents should have the choice to send their children to any school, private or public (Statement 3). Second, 36.2% of parents disagree or strongly disagree with the statement that the quality of education in a private school is better (Statement 4). On the other hand, 53.6% of parents disagree or strongly disagree with the statement that the quality of education in public schools is better because these schools inherited their infrastructure and teaching methods from the USSR (Statement 5). Third, 41.6% of parents disagree or strongly disagree with the statement that the reason parents now do not choose a school for their children is the habits left over from the USSR, when they did not choose a school (Statement 6).

Then we asked the respondents whether they knew what voucher financing for school education is. Only 20.3% said they knew it. To those who answered "yes," we asked whether "the Kyrgyz Republic needs voucher financing of school education." 57.1% answered yes, indicating that voucher financing of school education is needed in the Kyrgyz Republic.

In Table 4, we present the parents' responses to the direct questions using Likert scales that include: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, or do not know.

Table 4: Parents' attitudes toward education

	Questions: The answers are given as a percentage (%)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Do not know
1	School education is the responsibility of the state, so children should study free of charge only in public schools.	**38.2**	29.5	14.0	13.5	2.4	2.4
2	Parents should not choose which school their child will go to. Instead, the government representative in education should indicate the nearest public school and send them there.	14.5	16.4	8.7	**47.8**	11.1	1.4
3	Parents should have the choice to send their children (free of charge or partially at the expense of the state) to any school, private or public.	34.3	**53.1**	8.7	2.9	0.5	0.5
4	The quality of education in a private school is better than in a public one	14	27.5	14	**34.8**	1.4	8.2
5	The quality of education in public schools is better than in other schools because the state inherited the infrastructure, teaching methods and human resources from the USSR.	8.7	19.3	14.5	**47.3**	6.3	3.9
6	Most parents do not choose schools. Rather, they send their children to the nearest public school because this was the case under the USSR when parents did not have the opportunity to choose a school. After the collapse of the USSR, people continue to do this.	10.6	26.1	15.9	**40.6**	1.0	.8

Note: The number of respondents is 250. For each statement, respondents were asked to report their attitude by selecting an answer choice from the Likert scale.

Findings: Conjoint Experiment

The result of the conjoint experiment is presented in Figure 5. As explained, we have compiled an imaginary profile of schools' "A" and "B" comprising four attributes: the quality of education, friends, distance to school, and the type of school and tuition fees. Each attribute has three or more levels: for each level, we create a binary variable equal to 1 if the attribute in a profile takes that level and 0 otherwise. For example, the first attribute is "the quality of education" and has three levels: above average, average, and below average. The "below average" level is the base; the variables indicating "average" and "above average" are used as independent variables.

Figure 5 shows that a school with "above average" educational quality is more likely to be selected by respondents as preferred than a school with the baseline level of educational quality (below average). In other words, respondents prefer above-average educational quality in schools over below-average quality (by 49 percentage points). We also find that schools with average-quality education are more likely to be chosen than those with below-average quality, although the effect is smaller than for schools with above-average quality.

The second attribute, distance, has five levels: 0.5 km, 1 km, 2 km, 5 km, and 10 km. A distance of 10 km is used as a base. Schools closer to home are more likely to be chosen. For example, a school that is located at a distance of "2 km" from home has a higher probability of being chosen by respondents as preferred than a school that is at a base distance (10 km) by 16 percentage points. Schools located 0.5 km, 1 km, and 5 km away have higher selection probabilities than the school at the base distance (10 km) by 11 percentage points, 10 percentage points, and 15 percentage points, respectively.

The third attribute of having friends has three levels: many friends, some friends, and few friends. The "few friends" level is used as the base. We find that parents prefer a school where the child has "many friends" to a school with "few friends" by 9

percentage points, a statistically significant difference. Note that the school with "some friends" has a positive coefficient (by 2 percentage points), but the effect is not statistically significant at the 5% level.

The fourth attribute is types of schools and tuition fees, which have four levels: “public school with the tuition fee 30 thousand soms,” “private school with the tuition fee 120 thousand soms,” “private school with the tuition fee 160 thousand soms,” and “private school with the tuition fee 200 thousand soms.” The state school and the tuition fee of 30,000 soms are the basis. We find that all three levels have negative and statistically significant effects. For example, a private school with a tuition fee of 120 thousand soms is 9 percentage points less likely to be selected than a public school. This suggests that respondents disapprove of schools that charge tuition. Also, the higher the cost of study, the less they prefer them.

The results of this experiment generally indicate that when choosing schools, parents pay the most attention to the quality of education. In other words, the academic aspects of schools are very important to them, namely, the high quality of education. At the same time, non-academic factors, such as distance and the number of friends, also influence their school choices.

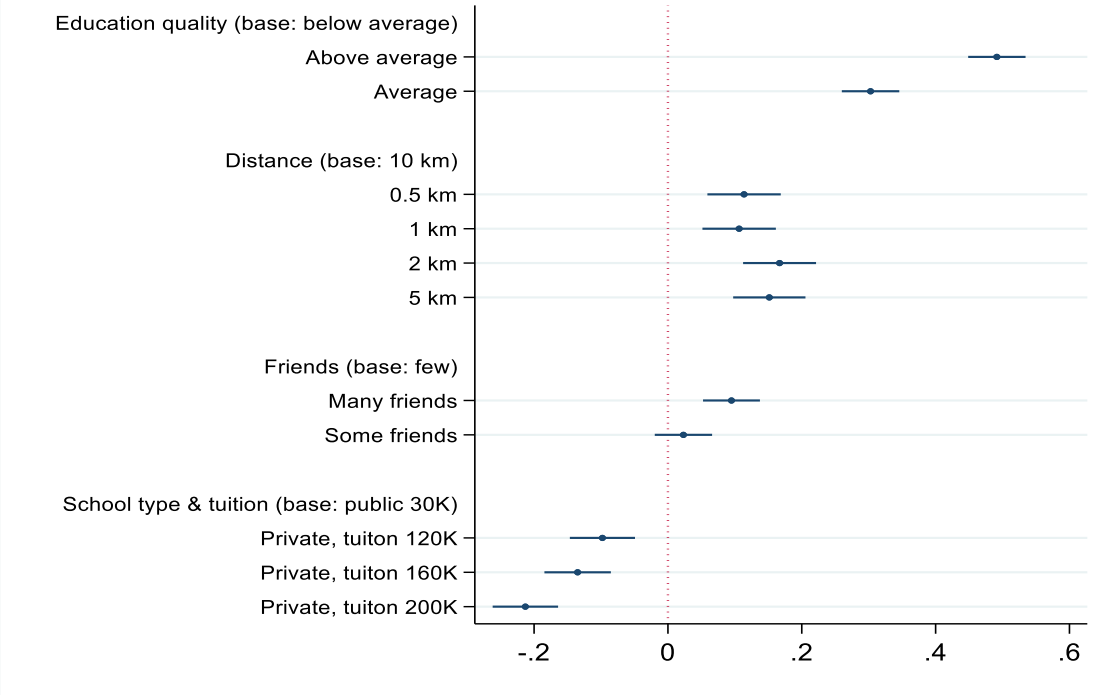


Figure 5. Parental choice: Results of Conjoint

Note: The figure is based on Table 6. Average Marginal Component Effects (AMCE) for all the attribute levels are plotted. Dots indicate point estimates; horizontal lines show 95% confidence intervals. For each attribute, one level is used as the baseline (e.g., “below average” for the education quality).

Table 6. Parental choice: Results of Conjoint

Indepedent variables	Coefficient	Std. err.	t	P>t	[95% conf.	interval]
Qual of ed/ Above average (A1L1)	0.491	0.022	22.48	0.000	0.4486137	0.5343721
Qual of ed/ Average (A1L2)	0.302	0.021	13.82	0.000	0.2598117	0.345725
Distances/ 0.5 km (A2L1)	0.113	0.027	4.07	0.000	0.0589297	0.1685743
Distances/ 1 km (A2L2)	0.106	0.027	3.8	0.000	0.0515441	0.1612449
Distances/ 2 km (A2L3)	0.166	0.027	6	0.000	0.1122908	0.2213509
Distances/ 5 km (A2L4)	0.151	0.027	5.5	0.000	0.0974848	0.2055273
Friends/ Many friends (A3L1)	0.094	0.021	4.38	0.000	0.0524663	0.1374445
Friends/ Some friends (A3L2)	0.023	0.021	1.06	0.290	-0.019707	0.0659879
Types of school tui. fees/ Priv tuition 120k som (A4L2)	-0.097	0.024	-3.94	0.000	-0.1465739	-0.049224

Types of school tui. fees/ Priv tuition 160k som (A4L3)	-0.134	0.025	-5.33	0.000	-0.1845746	-0.0853392
Types of school tui. fees/ Priv tuition 200k som (A4L4)	-0.213	0.024	-8.55	0.000	-0.2618928	-0.1641642
Constant	0.197	0.030	6.39	0.000	0.1371696	0.2585189

Note: The dependent variable is binary, equal to 1 if the respondent selects the profile (school) as the preferred option in the pair, and 0 otherwise. The number of respondents is 250. Each respondent evaluated 10 schools. R-squared is 0.2193. For each attribute, one level is used as the baseline.

Subgroup Analyses

Finally, although we did not propose any hypotheses in advance, the survey asked respondents about characteristics that may influence the school they choose, such as parents' income and whether children live with their grandparents. Therefore, we carry out subgroup analyses and report the results in this subsection.

In the USA, parents who actively chose schools – out of dissatisfaction with the quality of education in public schools in their community – had a relatively higher income level and cared little about the distance required to attend a magnet school (Goldring & Phillips, 2008). Given the importance of income highlighted in previous research, we report the results by parents' income in Figure 7. We categorized the respondents into two groups: higher-income and lower-income based on their self-reported income. Specifically, those who selected 50 thousand soms to 80 thousand soms per month, or 80 thousand soms and above, are categorized as higher income, while those who selected 15 thousand to 30 thousand soms, or 30 thousand to 50 thousand soms per month, are categorized as lower income.

The results show that parents with higher incomes prioritize educational quality more than those with lower incomes. In the first attribute, "quality of education", parents with high incomes prefer schools where the quality of education is "above average": the probability of selecting such schools is 69 percentage points higher than the probability of selecting schools below average. For parents with low incomes, the probability of selecting the above-average school is 36 percentage points higher. There is no difference between the two groups in the second and third attributes. The fourth attribute – "types of schools and tuition fees" – shows differences in preferences between parents with high and low incomes. The probability that parents with higher incomes choose private schools with tuition of 120 thousand soms or 160 thousand soms is not significantly different from the probability of selecting a public school. In other words, parents with higher incomes are willing to pay more for their children's education to ensure quality. Only the level "private tuition fee of 200 thousand soms" shows a statistically significant negative coefficient of 7 percentage points. Parents with low incomes prefer not to overpay for their children's education: all levels have negative, statistically significant coefficients.

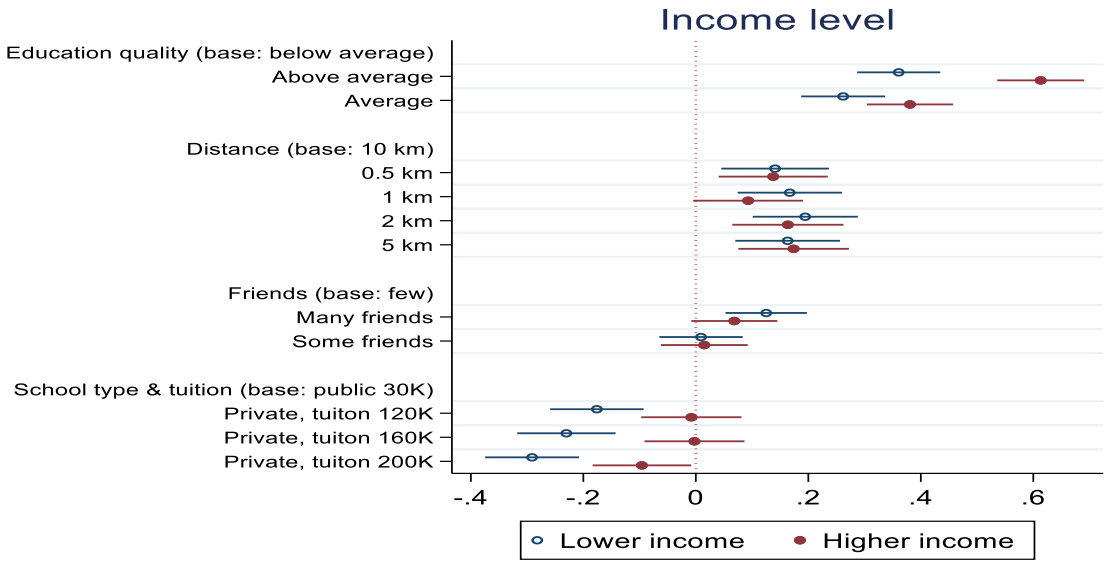


Figure 7. Parents' income level: Results of Conjoint

Note: Those who have selected 50 thousand soms to 80 thousand soms per month, or 80 thousand soms and above, are ategorized in the higher-income category. Those who selected 15,000 to 30,000 soms or 30,000 to 50,000 soms per month are categorized as lower-income. Those who did not report their income are excluded from the analyses. The regression table to produce this figure is not reported.

In the second subgroup analysis, we divided the respondents into two groups: those whose children live with their grandparents and those whose children do not. In Kyrgyz families, grandparents are strongly attached to the Soviet era, when education was free, and schools were state-owned only. They believe there is no need to pay for children's education and that quality can be good only in public schools. The results are reported in Figure 8. With the exception of the "friends" attribute, the results are similar between the two groups. In the "friends" attribute, the level "some friends" has a negative coefficient (7 percentage points) among those whose children live with grandparents. For those who do not live with grandparents, the “many friends” and “some friends” levels have a positive impact on them.

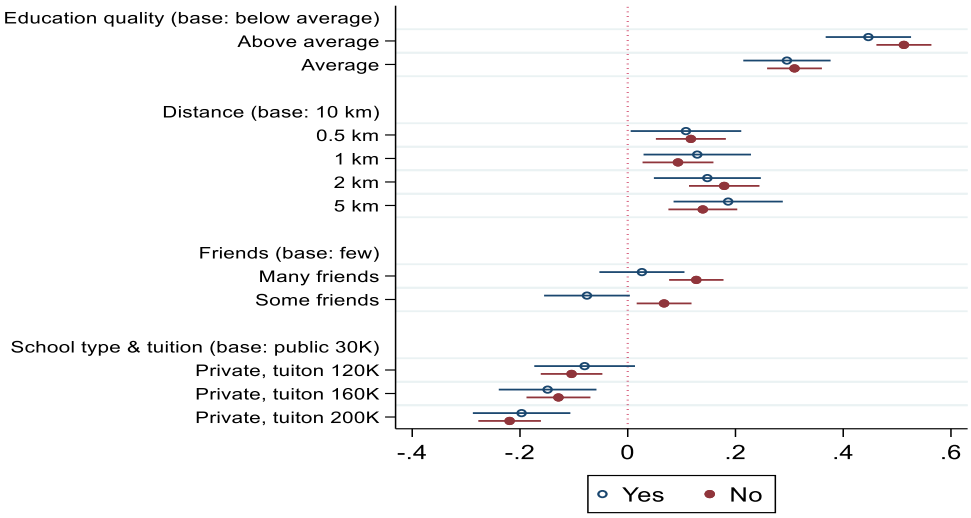


Figure 8. Children and their parents living with their grandparents: Results of Conjoint

Note: Respondents are divided into two groups: those whose children live with their grandparents and those whose children do not.

III. CONCLUSION

This is the first research paper to examine parents' school choice for their children in the Kyrgyz Republic. The main objective was to answer the question: “Do parents prioritize education quality as proponents of the reform assume? Or would other, non-academic considerations - such as physical distance from home to school and the presence of friends - prevail?” In this study, which used data from an original conjoint experiment conducted in Bishkek, we tested two hypotheses. The first hypothesis was that when choosing schools, parents consider the quality of education. The second hypothesis was that non-academic determinants prevail when parents choose schools.

The results confirm our first hypothesis that parents pay the most attention to academic aspects when choosing schools. The result also shows that non-academic aspects such as distance, friends, and tuition fees are important characteristics when choosing schools. This result is consistent with the second hypothesis, which posits that non-academic aspects of schools matter. However, we emphasize that the academic quality was the most important feature. Thus, the first hypothesis was more strongly supported.

A limitation of our research is that we surveyed only parents living in Bishkek. Data from the National Statistical Committee of the Kyrgyz Republic show that residents of the capital have relatively high incomes compared to those in other regions. At the same time, in Bishkek, most residents have higher education. In the future, it would be good to test the hypotheses in other cities and towns in the Kyrgyz Republic.

According to previous studies in the US, parents with relatively high incomes and higher education levels are most in favor of offering a free choice of schools and pay close attention to educational quality when choosing schools.

The income and education levels of parents living in small towns and rural areas in the Kyrgyz Republic differ significantly from those in the capital. We have not tested parents' preferences when choosing schools in small towns and rural areas in the Kyrgyz Republic; it is important to identify which factors are most important to them.

POLICY RECOMMENDATIONS

The experience of developed countries, such as Sweden and the USA, shows that introducing free parental choice, which provides everyone with equal opportunities to choose a school by creating competition among schools, is expected to improve educational quality. At the same time, our research confirms that the quality of education is very important to parents in Bishkek

when choosing schools. Therefore, we recommend introducing a free-choice school system for parents in Bishkek. Voucher financing can serve as a tool for implementing free parental choice.

The second recommendation is to conduct a study of parents' preferences in small towns and villages in the Kyrgyz Republic to determine whether they align with those in Bishkek.

Thirdly, in the current situation in the Kyrgyz Republic, certain difficulties may prevent the full realization of free parental choice through voucher financing. To eliminate these difficulties, the following conditions must be met:

- Reduce the funding gap between private and public schools. Today, the cost of education in public and private schools differs significantly. For example, the state spends an average of 30,000 soms (US$ 350) per year on public school education per child, while in a private school the average cost of tuition per year is 120,000 soms (US$ 1,395), a difference of four times. Public schools are poorly funded; their material base is not updated due to funding restrictions, and conditions differ significantly from those in private schools. If the current state allows parents to choose freely through voucher funding, public schools will be unable to compete with private schools. A ticket voucher worth 30,000 soms does not strongly motivate parents to choose schools freely if they want to enroll their children in schools with good academic performance. The average tuition at private schools is closer to the country's real needs.

- Create real competition between all schools and not interfere with the market. Market relations should determine which schools are the best, based on academic indicators, and schools with weak academic indicators should improve them or leave the market. In other words, the state should not artificially prop up public schools.

- The municipality should not assign the child to a certain area at the place of residence. Parents should have a free choice of schools so they can select any school with good academic performance, regardless of location.

- Every year, the government should publish the average score of students in each school and make a rating of schools. This will strengthen competition among schools, as parents will have a guideline for choosing the school with the best academic performance.

Free parental choice with voucher financing can significantly improve the quality of education in Bishkek and across the country, but only if these conditions are met.

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