4-1-2017

Does a Modest Stipend Encourage Girls to Attend School beyond the 5th Class: Evidence from the Khyber-Pakhtunkhwa Province of Pakistan?

Musharraf Cyan
Georgia State University, cyan@gsu.edu

Michael Price
Georgia State University, mprice25@gsu.edu

Mark Rider
Georgia State University, mrider@gsu.edu

Stephanie J. Roberts
Georgia State University, sroberts53@student.gsu.edu

International Center for Public Policy
Working Paper 17-07
April 2017

Does a Modest Stipend Encourage Girls to Attend School beyond the 5th Class: Evidence from the Khyber-Pakhtunkhwa Province of Pakistan?

Musharraf Cyan

Michael Price

Mark Rider

Stephanie J. Roberts

International Center for Public Policy

Georgia State University | Andrew Young School of Policy Studies

Georgia State University | Andrew Young School of Policy Studies

International Center for Public Policy
Working Paper 17-07

Does a Modest Stipend Encourage Girls to Attend School beyond the 5th Class: Evidence from the Khyber-Pakhtunkhwa Province of Pakistan?

Musharraf Cyan

Michael Price

Mark Rider

Stephanie J. Roberts

April

2017

International Center for Public Policy
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 413-0235
Fax: (404) 651-4449
Email: paulbenson@gsu.edu
Internet: http://icepp.gsu.edu/

Georgia State University | Andrew Young School of Policy Studies

International Center for Public Policy
Andrew Young School of Policy Studies

The Andrew Young School of Policy Studies was established at Georgia State University with the objective of promoting excellence in the design, implementation, and evaluation of public policy. In addition to two academic departments (economics and public administration), the Andrew Young School houses seven leading research centers and policy programs, including the International Center for Public Policy.

The mission of the International Center for Public Policy is to provide academic and professional training, applied research, and technical assistance in support of sound public policy and sustainable economic growth in developing and transitional economies.

The International Center for Public Policy at the Andrew Young School of Policy Studies is recognized worldwide for its efforts in support of economic and public policy reforms through technical assistance and training around the world. This reputation has been built serving a diverse client base, including the World Bank, the U.S. Agency for International Development (USAID), the United Nations Development Programme (UNDP), finance ministries, government organizations, legislative bodies and private sector institutions.

The success of the International Center for Public Policy reflects the breadth and depth of the in-house technical expertise that the International Center for Public Policy can draw upon. The Andrew Young School's faculty are leading experts in economics and public policy and have authored books, published in major academic and technical journals, and have extensive experience in designing and implementing technical assistance and training programs. Andrew Young School faculty have been active in policy reform in over 40 countries around the world. Our technical assistance strategy is not to merely provide technical prescriptions for policy reform, but to engage in a collaborative effort with the host government and donor agency to identify and analyze the issues at hand, arrive at policy solutions and implement reforms.

The International Center for Public Policy specializes in four broad policy areas:

- Fiscal policy, including tax reforms, public expenditure reviews, tax administration reform
- Fiscal decentralization, including fiscal decentralization reforms, design of intergovernmental transfer systems, urban government finance
- Budgeting and fiscal management, including local government budgeting, performance-based budgeting, capital budgeting, multi-year budgeting
- Economic analysis and revenue forecasting, including micro-simulation, time series forecasting

For more information about our technical assistance activities and training programs, please visit our website at https://icepp.gsu.edu or contact us by email at paulbenson@gsu.edu.

Does a Modest Stipend Encourage Girls to Attend School beyond the 5th Class: Evidence from the Khyber-Pakhtunkhwa Province of Pakistan?

Governance Support Program
Post-Crisis Needs Assessment Programs
FATA Secretariat and Government of Khyber-Pukhtunkhwa

Musharraf Cyan*
Telephone: (404) 413-0238
E-mail: cyan@gsu.edu

Michael Price*
Telephone: (404) 413-0080
E-mail: mprice25@gsu.edu

Mark Rider*
Telephone: (404) 413-0227
E-mail: mrider@gsu.edu

Stephanie J. Roberts*
Telephone: 678-908-6441
Email: sroberts53@student.gsu.edu

*Department of Economics, Andrew Young School of Policy Studies, Georgia State University, Atlanta, GA 30303, USA.

Acknowledgements

We would like to thank, without implication, Omar Khan, Qasim Zaman Khan, and Mian Sajid for their assistance with every aspect of this project. We would also like to thank Muhamad Said Fathurrohman for outstanding research assistance.

Introduction

According to a recent report by UNESCO (2012a), Pakistan has the second highest number of children in the world that are not attending school, despite increasing primary school net enrollment rates from 58 percent in 1999 to 74 percent in 2010. According to the same report, 25 percent of Pakistanis aged 7 to 16 in 2007 have never attended school. Furthermore, there is a significant education gender gap in Pakistan. Memon (2007) reports that for children enrolled in school, attendance rates are 20 percent higher for males than for females, with 50 percent of enrolled boys regularly attending school compared to 41 percent for enrolled girls. Regarding Pakistan, UNESCO (2012a) reports that more than two-thirds of all children never attending school are female. As adults, many more women than men are illiterate; two-thirds of the 49.5 million Pakistani adults that cannot read are female.

The gender gap in educational attainment is especially pronounced in Khyber Pakhtunkhwa Province (KPK), which is the focus area of this study. Poverty is a major issue in this province. Not only does KPK have the highest incidence of poverty in Pakistan, but the province also has the highest poverty rate for women. In this province, women do not work much outside the home and have difficulty accessing education and healthcare. While a woman's role in society has not changed much over the past few decades in this province, education rates have been increasing in recent years (UNESCO 2012a). In terms of education, 66 percent of children aged six through ten are enrolled in primary school in this province, but the gender gap is large, with 72 percent of boys enrolled but only 59 percent of girls enrolled (Government of Pakistan Statistics Division. National Bureau of Statistics, 2013). For secondary school, data could not be found for KPK. According to the United Nations Children's Fund (2013), however, data for Pakistan as a whole show that about 30 percent of children of lower secondary school age are not

attending school at any level. Again, boys are attending at a much higher rate than girls, 77 percent versus 62 percent, respectively. As discussed in greater detail below, educational gender gaps have negative consequence for economic growth. Therefore, KPK would likely benefit economically and perhaps socially by closing the educational gender gap.

This study evaluates whether a modest stipend of 200 PKR (about U.S. $2.00) per month can overcome cultural and economic barriers to female education that may account for the gender disparity in educational attainment in KPK. More specifically, the education department of the Government of KPK provides a stipend of 200 PKR per month to the parents of girls attending the 5^{th} class or beyond with an attendance rate of 80 percent or more. Among 26 districts of the province, 436,122 female secondary school students receive stipends through post offices. As part of this study, a survey was administered in October 2014 to a random sample of 642 families with a high-schooled-aged (HSA) girl that had attended at least some primary school in the Dir District of KPK. This district was chosen because it is perceived to be unfavorable for girls' education compared to some other districts in KPK. There was considerable Tallibanization and civil unrest in this district.

The survey requested information relating to demographics, general attitudes toward education, attitudes toward female education, attitudes toward females having careers outside the home, and reasons for attendance or non-attendance in order to better understand the effects of the girls' stipend program on high school enrollment and attendance.

On the whole, the study found that respondents are generally positive about girls attending school and pursuing a career. For the girls that did not attend school at the 80 percent rate, the major deterrents to their attendance are household chores and childcare, lack of or difficult transportation to school, distance from school, and the girl's dislike of the school.

Although some girls are not meeting the 80 percent attendance threshold, 72 percent of girls that are attending school beyond the 5th class are meeting the attendance minimum needed to receive the stipend. Furthermore, the data from the survey does not appear to support the view that social resistance to girls' education is a major contributing factor to the gender gap in education in KPF, at least in the Dir District. When provided with a stipend for high attendance rates, the data show that many girls are able to meet the attendance requirements. With these observations in mind, the girls' stipend program appears to motivate girls regularly to attend high school.

The results of this study should be interpreted with caution. There is no comparison or control group created by the program against which to gauge the efficacy of the girls' stipend program on girls' enrollment or attendance in secondary school. This is a retrospective study examining the reported attitudes of a "custodian" of a HSA girl who is potentially eligible for the girls' stipend program. We include HSA girls in the sample who are not attending high school in our sample because we would like to understand the differences between those who send their girl child to high school and those who do not, conditional on the girl having attended some primary school. We used this sampling frame because we believe that those who do not send their girl child to primary school are unlikely to do so for a PKR 200 per month stipend to attend secondary school. More specifically, the sample does not include respondents who never sent their girl child to school. Therefore, the sample of respondents may be more favorably disposed toward female education than the general population of Dir District. Furthermore, the reported attitudes of respondents may not reflect deeply held but private beliefs that shape their decisions about whether to send their daughter to school.

One of the most interesting results coming out of this study is that respondents who are not aware of the girl stipend program are less likely to send their daughter to high school. This

finding suggests that a well-targeted public awareness campaign could increase high school enrollment and attendance among girls thus narrowing the education gender gap in Dir District and perhaps elsewhere in KPK. On the other hand, respondents may not be aware of the program simply because they have no interest in or are opposed to sending their girl child to secondary school.

The remainder of this report is organized as follows. The next section is a brief review of the literature on the obstacles to female education in developing countries that are believed to contribute to the gender gap. We also review the literature on some of the economic and social consequences of an educational gender gap. The subsequent section describes the survey instrument and sample design. In the third section, we summarize the main empirical findings of this study, and the final section provides conclusions.

Literature Review

The literature on education in developing countries is extensive. Therefore, a complete review of this literature is beyond the scope of this study. However, the literature provides clear evidence that women's education is an important issue in many developing countries and, in particular, in Pakistan. Many efforts have been made to improve school quality and women's education in a variety of developing countries. A number of these efforts are described in this review. We begin by describing the evidence on the economic and social benefits of girls' education, then we assess the status of girls' education in Pakistan. Finally, we turn to the literature on interventions designed to improve girls' education in developing countries.

Numerous studies show that narrowing educational gender gaps improves many social outcomes, such as maternal and infant mortality, and increases economic growth in developing countries. Pervaiz et al. (2011) analyze the effects of gender inequality on Pakistan's growth.

Using time series data from 1972 to 2009, they find that changes in gender inequality have a negative and statistically significant at conventional levels effect on economic growth in Pakistan. According to Pervaiz et al. (2011), mothers with less education have more children than better educated mothers. High fertility among the less educated increases the population growth rate thus straining the ability of developing countries to provide services, like education and healthcare, to the population. They also report an inverse relationship between the educational attainment of adult women and infant mortality rates.

In a study conducted in rural Morocco, Glewwe (1999) finds that literacy and numeracy skills learned in school help mothers to better meet children's health and nutritional needs. Furthermore, women's consumption patterns differ from that of men. Pervaiz et al. (2011) report that women tend to spend more on the education and health of their children than do men. Increasing women's income through better education facilitates long-run growth because the money women spend on children's healthcare and education prepares them to participate in school as children and in the workforce as adults.

Gertler and Glewwe (1992) look at the relationship between education and gender in rural Peru. The authors note two main aspects of the decision by parents to send their children to school. There is a consumption aspect, whereby parents may prefer educated children regardless of any financial benefits gained. There is also an investment aspect, whereby parents may value education due to the financial returns it generates for them. They estimate a demand equation for an additional year of schooling. They find that distance to school in Peru has a negative impact on the decision to attend school. Additionally, they find that parents are more willing to pay for less travel time to school for boys than for girls. However, parents would be willing to pay fees for girls' schooling that would be high enough to fund teachers' salaries.

In addition to the potential beneficial effects of women's education on children's health, gender inequality in education makes women unable to compete with men in a variety of professions. Thus, men may take jobs that women who are more talented and able could have taken instead, had the women been provided with the proper education. When women miss out on these opportunities, the result is in an overall lower quality of human capital in a country. Since human capital is an integral part of economic growth, incorporating women into the workforce is likely to expedite the development process. In short, increasing women's educational attainment can lead to both short- and long-term economic growth, reducing the educational gender gap should interest policymakers concerned with encouraging economic growth.

With its especially large gender gap, Pakistan could see a substantial improvement in economic growth if women are better incorporated into the education system. For example, Aslam (2006) finds that the rate of return to an additional year of education in Pakistan is between 7 and 11 percent for men and between 13 and 18 percent for women. In other words, the returns to education appears to be higher for females than for males. She concludes that these results suggest that there should be a pro-female bias in household education decisions. Despite these results, total earnings are significantly higher for men than for women. To explain the high returns to women's education with the coexisting gender bias against women, the author provides two possible explanations. First, parents may accrue less of the return to girls' education than they do of the return to boys' education because 94 percent of women aged 21 and over live outside their parents' homes. Second, the estimate of the returns to female education may be misleadingly high because the estimate is based on the "small wage employment sector", while many working women in Pakistan are actually self-employed.

Aslam also finds that returns to primary schooling are greater in Pakistan than compared to other developing countries. She concludes that the differences in rates of return to primary and middle school between boys and girls are not completely explained by occupation and industry and likely reflect scarcity premiums in labor markets. If educating women truly has higher returns at this time, then policy-makers in Pakistan may wish to focus on further incorporating women into the educational system, so they can join the workforce in the future.

Memon (2007) examines the state of the Pakistani education system, specifically educational quality, the role and appointment of teachers, training for government teachers, and quantitative factors. He also examines gender differences, where he finds a large difference in school enrollment rates for boys versus girls. In February 2004, primary school enrollment was 60 percent for girls but 84 percent for boys. He also finds significant differences in the growth rate in literacy by gender. The average annual growth rate in literacy for females was about eight percent from 1961 to 1998; while the growth rate for male literacy was about five percent during that period. Additionally, he discusses new challenges faced by the education system, including improving the efficiency, quality, and relevance of education and increasing research activity in the country. Overall, he finds that the quality of the Pakistani education system is declining despite significant measures implemented by the government to address the situation. Memon thinks that reforms centered on teacher quality and pedagogical reforms are necessary to improve the quality of the education system.

Looking more specifically at the gender gap in Pakistan, Ismail (1996) examines the differences in the costs of primary education by gender and by province in Pakistan. Ismael assumes that provincial governments do not engage in cost-minimizing behavior but rather operate in an overall resource constrained framework. He finds that primary school annual

enrollment and output costs are generally increasing from the 1970s to the 1990s due to an increase in real recurring costs per teacher and in costs of school construction, as well as due to the lack of cost-minimizing choices for expenses on educational inputs, schools, and teachers. While an oversupply of schools exists for boys, Ismail (1996) reports that the number of teachers and schools for girls are below optimal levels. Estimates of the optimal number of schools for girls in KPK is 0.27 schools per 1,000 school-going aged children; however, Ismail notes that these results are likely unrealistic due to the low enrollment rates in the region. If 0.27 schools per 1,000 students is truly the optimal number, the results would indicate that KPK has a number of schools for girls that is greater than the optimal number. However, the author concludes that the true optimal number of girls' schools for the province could not be determined due to the low enrollment levels. Overall, he concludes that if funds are shifted towards recurring teacher employment expenses as opposed to new boys' school construction expenses, the provision of primary education could be significantly enhanced.

On the demand side, Lokshin and Sawada (2001) examine the reasons behind household schooling decisions in rural Pakistan. Two field surveys were conducted, the first in 14 villages of the Fisalabad and Attock districts of Punjab and the second in 11 villages of the Dir district of the then North-West Frontier Province (NWFP). The surveys covered 203 households in Punjab and 164 households in NWFP for a total of 367 households, providing information on 2,365 children. The most significant conclusion is that the retention rate is conditional on children entering school. On average, the sampled girls attend 1.6 years of school, and the sampled boys attend 6.6 years of school. For children who enter primary school, the averages are 6.0 years for girls and 8.8 years for boys. Additionally, the authors report that the probability of entering

school is low at 64 percent for boys and 24 percent for girls. Once students enter primary school, however, the graduation rate from primary school is 82 percent for boys and 69 percent for girls.

The conditional schooling probability is also lower for girls than boys at the secondary school entry level, but actually becomes greater for girls after secondary-school entry in the Punjab province, and differences disappear for higher levels of education. The gender gap is higher in KPK than in Punjab at the primary level, but similar results are observed at the secondary level. Also, Lokshin and Sawada (2001) report empirical evidence of statistically significant results regarding the gender gap in education, the significance of shock variables, wealth effects, and intra-household resource allocation. The high rate of retention once a student enters school is the most "striking" finding. Lokshin and Sawada (2001) recommend that the government implement supply-side interventions to narrow existing gender disparities in educational attainment.

For a broad picture of girls' situation in the Pakistani education system, Qureshi (2004) identifies the fundamental concerns within the education system and seven fundamental aspects of the education system. Additionally, she recommends policy changes to remedy the situation. To begin, she notes that more than 50 percent of the Pakistani population is illiterate, with almost two-thirds of the illiterates being female. Of the fundamental aspects, the first involves socio-cultural resistance to educating girls. However, she notes that this resistance has been decreasing over time, and personal security, lack of female teachers, and inadequate infrastructure dominate parents' current concerns about girls attending school. Also, she notes that the dropout rate in the Pakistani education system is high. On average, female children receive only 1.3 total years of schooling; whereas, male students receive 3.8 years of schooling.

Moreover, she explains that the education system in Pakistan is lacking in quality and relevance. Education sector reforms mainly serve to increase the quantity of education rather than the quality. She briefly mentions that incentive-based schemes, like the girls' stipend program, create a "dependency syndrome". These schemes are also expensive to administer and often suffer managerial and logistical problems. Furthermore, she notes that no regular mechanism for monitoring and evaluation is present in Pakistan, so the causes of failure or effectiveness of education projects and schemes cannot be analyzed before launching new projects and schemes. Political will and commitment is not adequate. Furthermore, budget allocations are inadequate to meet the education sector's needs.

To improve the status of girls' education in Pakistan, she makes several policy recommendations. First, she recommends incentive-based programs and higher investments to reduce the high dropout rates and enroll more girls. Also, she stresses the necessity of a high level of political commitment to improve female access to education. Additionally, she concludes that the issues with the quality and relevance of the Pakistani educational system must be remedied. She also recommends the mobilization of external financial resources committed to Pakistan by donor agencies at the Dakar Convention and the establishment of a "Donors Thematic Group on Education Needs." Instead of all-encompassing reforms, Qureshi suggests focusing on districts with high dropout rates, high gender disparities, low enrollment, and low literacy rates. Finally, she notes the importance of goal monitoring to achieve success.

Burde and Linden (2010) also examine the effect of distance on children's school attendance, using a randomized evaluation of community-based schools on children's academic performance. In thirty-one villages, home to over 1,500 children in rural northwestern Afghanistan, community-based schools were randomly assigned to groups of two to three closely

related villages. The authors use three models to assess the effects of distance and school enrollment on students' test scores. They also conduct surveys to obtain relevant information. The authors find a 42 percent increase in school attendance due to the adoption of community-based schools, accounting for the fact that some students switch from more distant government-based schools to community-based schools. The program results in an overall change in students' test scores of 0.59 standard deviations. They also find that effects of a more nearby school are very significant, with enrollment rates at 70 percent within a mile from the school but only 30 percent over two miles from the school. The effects on both attendance and test scores are larger for girls than for boys.

Besides providing more nearby schools, other incentives may motivate students to attend school. Kremer et al. (2008) describe the results of a randomized evaluation of a merit scholarship program in Kenya. If girls score well on academic exams at the end of the sixth grade, the program pays the girls' school fees and provides a cash grant to pay for school supplies for a two-year period. The scholarship program was conducted in two neighboring districts spanning 127 sample schools, sixty four of which were invited to participate in the program in March 2001. The District Education Offices provided test score data, and surveys were conducted in 2002 to obtain relevant information from all students in attendance on the day of the survey. Also, school attendance rates were obtained through four unannounced visits to the schools. The authors estimate a model to gauge the impact of the program on test scores. They report that merit-based scholarship programs can increase test scores and classroom effort as measured by teacher attendance, with no adverse effects. To increase the benefits obtained from a merit scholarship program, Kremer et al. (2008) suggest restricting the scholarship competition

to lower income students, schools, or regions, or conducting multiple competitions in restricted geographic areas.

Besides the provision of stipends to students, teachers can also be given incentives to improve the school environment. Muralidharan and Sundararaman (2011) report the results of a randomized evaluation of a teacher performance pay program in primary schools in Andhra Pradesh. The sampled schools are part of five districts in each of the three socio-cultural regions of the state, sampled in proportion to the population's breakdown. Four separate interventions are implemented, with two providing schools with additional inputs and two providing schools and teachers with incentives for better performance. Teachers in the individual schools receive bonuses based on average improvements in the test scores of the students they teach; whereas, teachers in group-incentive schools receive bonuses based on average school-level improvement in test scores. They find that teacher performance pay yields significant improvements in student test scores, with no adverse effects. They also find that additional school inputs are effective in raising student test scores but that the incentive pay is three times as cost effective. They note that the collection of teacher data over multiple years, as well as drawing on the literature on estimated teacher value-added models, could improve the incentive model. In contrast to this study, the program the girls' stipend study analyzes focuses on providing incentives solely to the students rather than the teachers. Additionally, the current study of the girls' stipend program in Dir District only looks at the effects on girl children's decision to attend school beyond the 5^{th} class and their attendance, rather than on their performance.

Banerjee et al. (2007) report the results of two randomized experiments conducted in India over a two year period. One experiment is a remedial education program in which young women are hired to teach lower performing students basic literacy and numeracy skills. The

other intervention is a computer-assisted learning (CAL) program with a focus on mathematics development. The authors of this study find that the students' test scores from schools given the remedial education program improve by 0.14 standard deviations in the first year and by 0.28 in the second year. Students who are part of the remedial program improve their test scores by 0.6 standard deviations in the second year, but the regular classroom students do not see a test score improvement. The CAL program yields a 0.36 standard deviation increase in math scores in the first year and a 0.54 standard deviation increase in the second year. Since the remedial education teachers are paid significantly less than regular teachers, the authors conclude that the remedial education program is more cost effective than hiring new teachers. They also conclude that the remedial education program would be five to seven times more cost effective than expanding the CAL program. The authors are unsure whether the effects of these programs endure over the long-term or only have short-term impacts.

While motivating teachers to perform better is a necessary goal in developing countries, motivating teachers to attend school in the first place may be even more pressing. Kremer et al. (2005) present data on teacher absences verified directly in person at 3,700 Indian schools. They find that 25 percent of Indian teachers are absent on a given day, with only 50 percent of teachers actually teaching. The authors believe that compensation levels have little effect on a teacher's decision to attend school because Indian teachers cannot be fired, and their compensation is not based on attendance. However, they find that better infrastructure and improved monitoring have a positive influence on teacher attendance rates. The authors recommend a few potential reforms and stress that "rigorous randomized evaluations" should be utilized to assess the impact of any reforms implemented.

Also regarding teacher absence, Chaudhury et al. (2006) describe the results of absence levels measured through unannounced visits to primary schools and health clinics in Bangladesh, Ecuador, India, Indonesia, Peru, and Uganda. They find that 20 percent of government primary school teachers and over one-third of healthcare workers are absent on a given day. To minimize the cost of absence, the authors suggest that health and education policy should be designed to take into account the high absence rates. To reduce absence, the authors recommend increasing local control, improving the civil service system, and experimenting with parent choice of schools, with government money following choice.

Looking at many different types of developing country educational programs, Michael Kremer (2003) utilizes random evaluations of educational programs in developed countries to extract "lessons for education policy and for the practice and political economy of randomized evaluations." In his review, school participation rates could be significantly improved through low-cost health programs, school cost reductions for households, or the provision of meals. Kremer also suggests that the provision of more school resources may have a limited impact on school quality. Additionally, Kremer notes that estimates from prospective randomized evaluations can be very different than estimates from retrospective studies, suggesting an omitted-variable bias. Also, randomized evaluations can be used to provide more information on behavioral parameters and on more general questions than retrospective studies. Kremer notes that randomized evaluations are feasible, even though they are labor-intensive and expensive. He concludes that randomized evaluations may be easier to implement for projects of non-governmental organization (NGO) but funding is less likely to be obtained. Lastly, he recommends establishing a certification organization to help policymakers identify credible randomized evaluations.

Overall, the girls' stipend study contributes to the existing literature in the following ways. The study specifically addresses the efficacy of the girls' stipend program in the Dir District of KPK, which experienced Tallibanization and civil unrest; thus, ex ante it is perceived to be an unfavorable environment for female education. Additionally, the study exclusively focuses on secondary school age girls. The study looks at the effects of the provision of a stipend for school attendance by girls beyond the 5^{th} class. Also, the study analyzes the reasons for both attendance and non-attendance of the girls. The girls' stipend study helps to understand why girls are and are not attending school in the province; therefore, the study can help facilitate economic growth if the results of this study are used to narrow the gender gap in school attendance beyond the 5^{th} class.

In order for women to compete on par with men in the labor market, women must have equal educational opportunities. The literature supports the view that narrowing the gender gap can facilitate economic growth. If decision makers know what motivates girls to attend school or their parents to send them to school and what is holding girls back from attending school, they can better understand how to close the gender gap in the hopes of increasing economic growth and social outcomes. Conditional cash transfers, like the Girls stipend in Pakistan, in support of education have proven successful in other parts of the world, particularly in Latin America. However, data are lacking on the effectiveness of such programs in Pakistan.

Survey and sample design

The current girls' stipend study examines how stipends for attendance affect girls attending school beyond the 5^{th} class. A stipend of PKR 200 per month is given to the parents when their daughter attends school beyond the 5^{th} class and attends at least 80 percent of the time.

The stipend can be used for any purpose. The theory is that there are obstacles to girls attending school, and a modest stipend may overcome these obstacles. The existing literature identifies a number of barriers that differentially affect girls going to school. First, there may be socio-cultural attitudes against girls attending school. These attitudes may be held by the girl's parents or by the community. Some may believe that a well-educated daughter is perceived by men to be a less suitable marriage partner. There also may be communal retaliation and even violence directed against girls attending school. Parents may need the girl child to stay at home to take care of younger siblings or to perform household chores. In addition, girl children may bring money to the family by working as hired help in the homes of wealthier families. Parents may not be able to afford school supplies for their daughter to attend school. There is also evidence that distance to school can be an obstacle to girls attending school, particularly when there are security concerns. Finally, the quality of the school, teacher attendance, and other school attributes may influence decisions to send a girl to school.

The survey is designed to gather demographic information about the girls and their families, as well as information on attendance rates, and the rationale for sending or not sending their girl child to school. An English language version of the survey instrument is provided in an Appendix to this report. The survey is divided into three sections. In the first section, demographic information is collected from the respondent, including information about the respondent's relationship to the child as well as the respondent's education level, reported ethnic group affiliation, length of residence in the village, and measures of household wealth. Also, the survey collects information on the child's means of transportation to school and the reported distance from the child's home to the school. Furthermore, the survey requested information on the number of and ages of the other children under eighteen residing in the girl child's home.

In the second section, the survey asked about the respondent's attitudes regarding education. Survey takers are asked to indicate how strongly they agreed or disagreed with a number of statements about educating children irrespective of gender and about educating girls in particular. The third section asked if the respondents are aware of the stipend and if they felt 200 rupees per month was adequate to promote attendance past the 5^{th} class. The survey also asks whether the girl child was attending school beyond the 5^{th} class. If the respondent said that the girl was attending past the 5th class , the survey requested information on how the family uses the stipend, how often the girl attends school, why she attended, and reasons for absence (if relevant). For the girls that are not attending school past the primary level, the survey asks about the reasons for their nonattendance.

The target for this project is the area bordering Upper and Lower Dir. This area was selected because it presents a blind spot between the highly pro-female education areas of KPK, namely Chitral and Malakand districts. The project area also lies in the Taliban affected Swat District and Bajaur Agency in the east and west, respectively. The target area was itself Taliban affected and many female schools were affected during the war on terror. Due to social and economic forces in Dir, the overall environment in the target area would seem to be particularly unfavorable to girls' education. In short, the target area provides an interesting case study to measure the direction and extent of the nudge that a stipend can provide in terms of increasing girls attendance beyond the 5^{th} class.

The Education Department of KPK provided a list of girls' high schools in Dir District. Seventeen high schools were randomly selected from this list. The school administrators of these high schools identified the primary schools from which they received their students. Then, the administrators of these feeder schools were asked to provide a list of villages from which they

draw their students. This formative research helped to identify the exact reach of each high school and helped in identifying whether certain localities (villages) were a factor in dropout cases for particular high schools.

The survey was conducted from October 23, 2014 through October 27, 2014. The respondents were divided into three groups i.e. those continuing education in high schools, those that dropped-out at high school, and those that dropped-out during primary school. A door to door survey was carried out in the target villages. The greater of 40 respondents or the maximum number of qualified respondents were selected from each village. For purposes of this survey only one respondent and one high school aged girl (HAS) was selected from each household. To get a balanced gender ratio among respondents, male and female enumerators were employed in approximately equal numbers to administer the surveys. This strategy allows us to examine whether mothers hold different views about girls' education than fathers. As discussed in greater detail below, we do observe some minor differences with mothers being slightly more enthusiastic about supporting their daughter's education than fathers. Since the sample does not include respondents who never sent their female child to school, we should expect that the respondents generally have a more favorable attitude toward girls' education than the general population in Dir.

To ensure that the survey protocols were correctly implemented, we arranged for the following monitoring to be performed: field checks of completed surveys were conducted by University of Peshawar field supervisors; spot checks were conducted by personnel of the Monitoring and Evaluation Directorate of the Government of PKP; and pictorial evidence was provided by the enumerators from the field. Based on these three independent sources of information, we are confident that the surveys were carried out as prescribed by the protocols.

Results

As previously discussed, male enumerators typically surveyed fathers or other male members of the household, while female enumerators surveyed mothers or other female members of the household. A total of 642 families participated in the survey. Figure 1 summarizes the breakdown of respondents by relationship to the HSA girl in the household. More specifically, 39 percent of the respondents are the mother of the girl; 49 percent are the father; grandfathers account for an additional 11 percent. The remaining 1 percent have some other relationship to the HSA girl. In sum, approximately 40 percent of the respondents are female, and 60 percent are male.

Figure 2 shows the distribution of the education levels of the respondents, with approximately half of the respondents not having attended secondary school themselves. Figure 3 shows the distribution of vehicle ownership which we use as a proxy for household wealth. Most of the respondents report not owning any vehicle, but 25 percent report owning a car. As shown in Figure 4, nearly 96 percent of the respondents report home ownership, far fewer report land ownership in Figure 5, with 34 percent owning no land at all. The reported rate of home ownership may be misleadingly high. Many families live in government housing with long-term leases, and they may mistakenly report such arrangements as home ownership. In short, the demographic characteristics of the sample reveal that the respondents have low levels of education and have low incomes, with some exceptions. The demographic characteristics are generally consistent with the characteristics of this region of KPK; that is, low levels of education and low income.

Turning to the attitudes of the respondents to education and girls' education in particular, the results suggest a generally positive attitude towards girl children attending schools and

women pursuing careers. Figures 6 through 9 show the distribution of the respondents' attitudes toward girls' education, the respondents' attitude toward the HSA girl in the household having a career, and the respondents' opinion about the community's attitude toward girl's education, respectively. More specifically, when respondents are given the statement, "I believe that education is important for female children", 89 percent either agreed or strongly agreed with the statement. In regards to whether the respondent would like for the girl child to have a career, 96 percent of the respondents agreed or strongly agreed with the statement, "I would like for (name of student) to have a career." These responses suggest that the girls' parents and/or guardians have a positive attitude toward women pursuing work outside the home in the future. This attitude may extend to women working outside the home when they are mothers as well since a career typically means a long-term occupation.

When asked about their perception of a village's attitude toward secondary school attendance among girls, 95 percent of respondents agreed or strongly agreed with the following statement, "In my village, people believe that it is important for female children to attend school beyond the 5^{th} class." The fact that almost all respondents agreed with this statement suggests that the positive attitude towards educating girl children past the primary level is perceived to be village-wide, rather than solely within the homes of families with secondary school age girl children.

In response to the statement, "[i]n my village, people believe that women should not have careers," 93 percent of respondents disagreed or strongly disagreed. Thus, almost all respondents believe that negative attitudes towards women pursuing careers are not prevalent in their village. As previously noted, the sample does not include respondents who never sent their girl child to school. Therefore, the sample is likely to be more favorably inclined toward girls' education, and

by extension, more favorably inclined towards women having careers. However, this response suggests that our sample of respondents believes that the general population is favorably inclined toward women's careers. In sum, the respondents in our sample report a favorable attitude toward girls' education and toward adult women having careers. This is in contrast to widely held beliefs that cultural attitudes in this region are opposed to girls' education and that this is a major deterrent to girls' attending school. These expressions of support for girls' education should be taken with due skepticism. Reported attitudes in a survey may differ from deeply held but private beliefs which shape actual decisions.

Additionally, the survey questioned the respondents about the 200 PKR stipend per month that is provided to the girl's family for enrolling her in secondary school and for an attendance rate in excess of 80 percent. The survey asked about both their awareness of the stipend and the perceived adequacy of the stipend. The responses to these questions are summarized in Figures 10 and 11, respectively. When asked whether they were aware that the student was eligible for a 200 rupee stipend per month, 80 percent of respondents indicated that they were aware of the program. On the other hand, 19 percent of respondents indicated that they were unaware of the program, while another one percent indicated that they are not sure of their awareness. As we will see below, lack of awareness of the girls' stipend program is an important predictor of nonattendance by HSA girls. This suggests that a well-targeted public awareness campaign regarding eligibility for the girls' stipend program may increase the number of girls enrolling in secondary school and exceeding the 80 percent attendance threshold.

Figure 12 shows that respondents who report that they do not send their HSA girl child to school because they cannot afford school supplies are just as likely to strongly agree that PKR 200 per month is adequate to promote girl children to attend school beyond 5^{th} class as

respondents whose girl child attend school beyond the 5th class. This finding could have a number of interpretations. For example, respondents may not be giving thoughtful answers to the questions, or they may feel that the enumerator wants them to respond positivelyabout the girls' stipend program. There may be other explanations, as well.

Figures 13 through 15 examine the respondents' perception of the girls' attendance rate, reasons for having less than an 80 percent attendance rate, and reasons for not attending beyond the 5th class, respectively. While approximately 20 percent of respondents whose girl child did not meet the 80 percent attendance requirement said the child did not attend because she did not have school supplies, 96 percent of these respondents said 200 rupees was adequate to promote attendance. These results may indicate that the respondents felt the stipend was adequate for others, but 200 rupees may not have been adequate for their family's situation since they could have used the stipend to purchase school supplies if they had received enough money. Thus, the stipend may not have been satisfactory for some families despite results that indicate otherwise.[1] However, only four percent of total respondents indicated that lack of school supplies was a deterrent to their girl child attending school, so this disparity exists only for a small portion of the total families surveyed. Thus, the evidence suggests that the stipend was not enough for some families, but the evidence does not support conclusions that the inability to buy school supplies was a major obstacle to girls attending school.

While many students participated in the program, attendance rates varied among the girls. Below is a breakdown of attendance rates of surveyed girls attending school beyond the 5th class. Most girls (72 percent) that were attending beyond the 5th class did meet the attendance requirements, with very few (less than four percent) falling below 50 percent attendance rates.

[1] Also, the chance exists that some families believed the enumerator expected a positive response, and the families thus may have exaggerated their support for the program in an effort to please the enumerator.

For those girls that did not meet the 80 percent attendance requirements of the stipend, or did not attend at all, the survey requested their reasons for nonattendance. Below is a breakdown of the rationales for nonattendance from the two groups.

The most common reasons cited for nonattendance are that the girl child is needed at home to do chores or to take care of younger children.[2] Also, many respondents said that the girl did not like school or she could not arrive at school due to lack of transportation, bad weather, or distance. Surprisingly, the results differ from the literature reviewed earlier in that the girl child needing to stay home for chores or childcare was not listed as a major reason for absence in the literature. Also, the girl child's personal preference for not liking school is not specifically mentioned in the literature as a reason for nonattendance. However, both Qureshi (2004) and Memon (2007) mention poor curriculum and teaching quality as issues in the Pakistani school system. While one cannot say for sure why these girls do not like school, an improved curriculum and better teaching, as recommended by Qureshi, likely would not harm girls' rates of high school attendance.

Important reasons given for the girl child not attending school is that she is needed at home to take care of younger siblings and to do household chores. Since we gather information on the age distribution of children in the household, we can see if HSA girls who do not go to school beyond the 5th class are in households with more children under the age five. Figure 16 shows the distribution of the number of children in the household under the age of five does not substantially differ between those who send their girl child to school beyond the 5th class and those who do not. There may be some unobservable differences in these households, other than

[2] While many respondents said the girl child needed to stay home to care for younger children, only 25 percent of these respondents had at least one child five years old or younger at home. Thus, these results could be exaggerated if the respondent felt that the enumerator expected a positive response and wanted to please the enumerator. However, the possibility also exists that the girls were caring for children over five years old or they were caring for other children (possibly relatives) who did not live in their home full time.

the number of children under the age of five, which accounts for the need for the girl child to stay at home and take care of younger siblings. For example, the mother could be unhealthy or even deceased in households that report that the girl is needed at home to take of younger siblings, even though the number of children under age five does not seem to be the determining factor in the reason the girl child is needed at home to take care of younger siblings. It could be the case that the respondents are opposed to female education but view reporting that that they keep her at home to take care of younger siblings as a more socially acceptable reason to keep the child out of school. If that is the indeed the case, this is interesting in and of itself. It suggests that people are reluctant to reveal that they do not value female education and look for a more socially acceptable reason to rationalize this decision, at least in the context of the survey. This would lend further support to the finding that society does not oppose female education.

In addition, Qureshi (2004) identifies the following as major reasons for nonattendance: social resistance to female education, personal safety concerns, not enough female instructors, and poor infrastructure. The girls' stipend study found little evidence of social resistance to educating women; the evidence actually seems to point in the opposite direction, with most respondents displaying positive attitudes toward female school attendance beyond primary levels.[3] Additionally, while personal safety and school building concerns were listed as reasons for nonattendance, they were far from the predominant concerns. The results confirm the existing literature's notion that distance from school plays a significant part in girls' nonattendance (Gertler and Glewwe, 1992; Ismail, 1996; Burde and Linden, 2010). However, teacher absence found in other developing countries (Kremer et al., 2005; Chaudhury, et al., 2006) does not appear to be a significant reason for girls' nonattendance in KPK Province. Thus, based on the

[3] Again, the possibility exists that the respondents thought the enumerator expected a positive response and thus exaggerated their approval of girl education to please the enumerator.

evidence, the primary reasons for nonattendance are lack of resources for childcare and chores in the home, distance and/or difficulty traveling to school, and the girl's dislike of school.

Figure 17 shows how household utilize the girls' stipend. Most households, approximately two-thirds, report that they use the stipend to pay for school supplies. This would be consistent with households keeping the girl child out of school because of the household budget constraint. If that is the case, the girls' stipend program may be increasing the number of girl children going to school. Interestingly, approximately 25 percent of respondents report that the girl child is allowed to use the stipend to buy discretionary items. This suggests that girls are given some economic autonomy in the household which is encouraging. Since money is fungible, this finding should be interpreted with caution. We do not know whether the girls' stipend led to an increase in household expenditures on school supplies or increased the amount of discretionary spending by girls. Nevertheless, the responses to this question are intriguing.

Next, we examine the correlates with the three outcome variables of this study, namely "is your HSA daughter attending school beyond the 5^{th} class", "are you aware that your HSA daughter is eligible for the girls' stipend program", and "do you believe that the PKR 200 per month stipend is adequate to promote high school attendance among girls". We deliberately use the term correlates because we wish to discourage any causal interpretation of the findings.

Table 1 provides summary statistics for the dependent and independent variables used in the analysis. For example, 80 percent of the respondents report that the HSA girl in the household is going to secondary school; only 20 percent of the respondents report that they are unaware of the girls' stipend program; and 88 percent of the respondents report that the girls' stipend is adequate to encourage girls to go to school beyond the 5^{th} class. For each of these three outcome variables, we estimate three specifications: Probit model, random effects Probit model,

and random effects Logit model. The random effects models account for unobserved heterogeneity among the 17 districts in the sample. The estimated marginal effects for the three outcomes are reported in Tables 2 through 4, respectively. Generally speaking, the estimates are robust to the specification of the model; therefore, we will focus the following discussion on the results that are consistent across all three specifications and make note of exceptions.

The main finding in Table 2 is that when the respondent reports that they are "aware of the girls' stipend", the HSA girl in the household is more likely to go to school beyond the 5th class. In the case of the random effects Logit model, the HSA girl is 10 percentage points more likely to go to school if the respondent is aware of the program. In addition, respondents that disagree or strongly disagree with the statement that "women should have a career" are less likely to report that the HSA girl in their household is going to school. Respondents that report owning their own home are more likely to report that the HSA girl in their household is attending school beyond the 5th class. Surprisingly, respondents with high level of education are less likely to report that the HSA girl in their household is attending school beyond the 5th class. However, these latter findings are not robust to alternative specifications of the model.

Turning to the results reported in Table 3, the determinants of whether the respondent is aware that the HSA girl in their household is eligible for a stipend are somewhat puzzling in several instances. Those that agree or strongly agree that women should have a career are less likely to report being aware of the program. Respondents who agree or strongly agree with the statement that people in my village believe going to school beyond 5th class is important for female student are less likely to report being aware of the program. Respondents that report having a middle level education are less likely to report that they are aware of the program. Respondents who report that they agree or strongly agree with the statement that woman should

not have a career are more likely to be aware of the girls' stipend program. Interestingly, respondents that live further from the school and when the girl must walk to the school are less likely to report awareness of the girls' stipend program. These findings suggest that a public awareness program should target households that are further from high schools and households with a middle level of education.

The results in Table 4 show that respondents who agree or strongly agree with the statement that "people in my village believe going to school beyond 5th class is important for female student" are more likely to agree that a PKR 200 per month stipend is adequate to promote girls attendance beyond the 5th class. In contrast, those respondents who report agreeing or strongly agreeing with the statement "women should not have a career" are less likely to believe that PKR 200 is adequate to promote girls attendance beyond the 5th class.

Conclusion

Overall, the most noteworthy result from this study is the overwhelmingly positive attitudes towards girls' education and women's careers reported by survey respondents. This finding should be interpreted with caution. The sample does not include respondents who never sent their girl child to school; therefore, the respondents in the sample may be more favorably disposed toward female education and women's careers than the general population. Respondents to the survey also appear to believe that community attitudes toward girls' education beyond the 5th class are generally supportive. While Qureshi (2004) reports that societal pressure opposing girls attending school is a major issue in Pakistan explaining the education gender gap, the evidence reported in this study does not support this conclusion. In addition, respondents who report being aware of the girls' stipend program are more likely to send their HSA girl to school beyond the 5th class than those who report being unaware of the program.

Major deterrents to girls attending school appear to include unmet needs in the home for household chores and childcare, difficulty traveling to school, distance from school, and lack of school appeal to girl children. Additionally, the study finds that more than 70 percent of girls enrolled in school beyond the 5th class meet or exceed the 80 percent attendance rate threshold. These results suggest that stipends based on attendance rates may have helped to incentivize girls to attend school 80 percent of the time or more. While much progress is still needed to narrow the educational gender gap in KPK Province, it appears that progress is being made on the social/cultural front and that perhaps girls can be motivated to attend school regularly, given the proper incentives and resources.

Although respondents overwhelming report that they believe that PKR 200 per month is adequate to promote girls attending school beyond the 5th class, the evidence that girls do not attend because they are needed for household chores or childcare suggests that a larger stipend amount would incent more girls to attend school beyond the 5th class. Finally, a well-targeted public awareness campaign about the girls' stipend may increase girls' high school attendance. The evidence reported in this report suggest that such a campaign should target households residing further from the local high school.

The present study suggests a number of questions for further analysis. One obvious direction for further research would be to conduct a causal study to measure the effectiveness of the girls' stipend in promoting enrollment and attendance beyond the 5th class. Another direction would be to survey the attitudes of households that never send their girl child to school. Since the evidence suggests that once the girl attends school, she is likely to stay in school, it may be more efficacious to provide stipends to households that would never send their children to school. The third direction would be to explore the effect of supply-side interventions on girls enrolling and

attending school beyond the 5th class. Finally, it would be interesting to know how much girls are learning in school relative to boys. Answers to these questions would provide important information to policy makers seeking to allocate resources to maximize the return on investment.

References

Aslam, M. (2006). "Rates of return to education by gender in Pakistan." Economic Series Working Papers GPRG-WPS-064. University of Oxford, Department of Economics.

Banerjee, A., Cole, S., Duflo, E., and Linden, L. (2007). "Remedying education: evidence from two randomized experiments in India." *The Quarterly Journal of Economics* 122(3): 1235-64.

Burde, D., and Linden, L. L. (2012). "The effect of village-based schools: Evidence from a randomized controlled trial in Afghanistan." NBER Working Paper 18039. Cambridge, MA: The National Bureau of Economic Research.

Chaudhury, N., Hammer, J., Kremer, M., Muralidharan, K., and Rogers, K. (2006). "Missing in action: Teacher and health worker absence in developing countries." *Journal of Economic Perspectives* 20(1): 91-116.

Gertler, P., and Glewwe, P. (1992). "The willingness to pay for education for daughters in contrast to sons: Evidence from rural Peru." *The World Bank Econoic Review* 6(11): 171-88.

Government of Pakistan Statistics Division. Pakistan Bureau of Statistics (2013). Pakistan social and living standards measurement survey (2011-12). Islamabad: Government of Pakistan.

Ismail, Z. (1996). "Gender differentials in the cost of primary education: A study of Pakistan." *The Pakistan Development Review* 35(4): 835-49.

Kremer, M. (2003). "Randomized evaluations of educational programs in developing countries: Some lessons." *The American Economic Review* 93(2): 102-06.

Kremer, M., Miguel, E., and Thornton, R. (2004). "Incentives to learn." NBER Working Paper 10971. Cambridge, MA: The National Bureau of Economic Research.

Kremer, M., Chaudhury, N., Rogers, F., Muralidharan, K., and Hammer, J. (2005). "Teacher absence in India: A snapshot." *Journal of the European Economic Association* 3(2-3): 658-67.

Lokshin, M., and Sawada, Y. (2001). "Household schooling decisions in rural Pakistan." Policy Research Working Paper 2541. Washington, DC: The World Bank.

Memon, G. (2007). "Education in Pakistan: The key issues, problems and the new challenges." *Journal of Management and Social Sciences* 3(1): 47-55.

Muralidharan, K., and Sundararaman, V. (2011). "Teacher performance pay: Experimental evidence from India." *Journal of Political Economy* 119(1): 39-77.

Qureshi, S. (2004). “Pakistan: Education and gender policy. Girl's education: A lifeline to development.

United Nations Children’s Fund. (2013). All children in school by 2015. Global initiative on out-of-school children. Out-of-school children in the Balochistan, Khyber Pakhtunkhwa, Punjab and Sindh provinces of Pakistan. Islamabad.

United Nations, Educational, Scientific and Cultural Organization. (2012a). Education for all global monitoring report. Education in Pakistan. Paris.

United Nations Educational, Scientific and Cultural Organization. (2012b). Education policy analysis report of Khyber Pakhtunkhwa. Pakistan: Ghulam Mustafa.

Figure 1
Respondent's relationship to the girl child

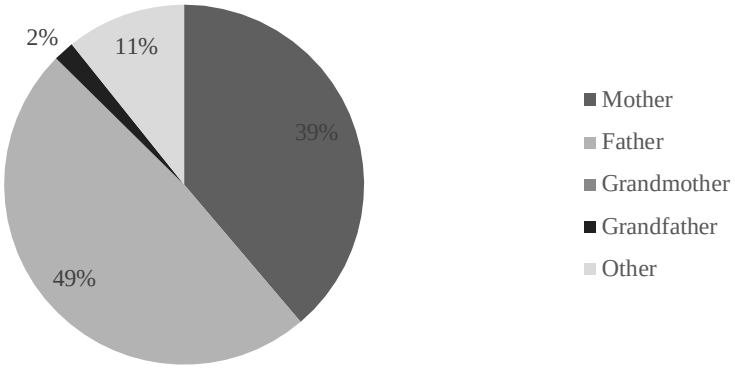

Figure 2
Respondent's level of education

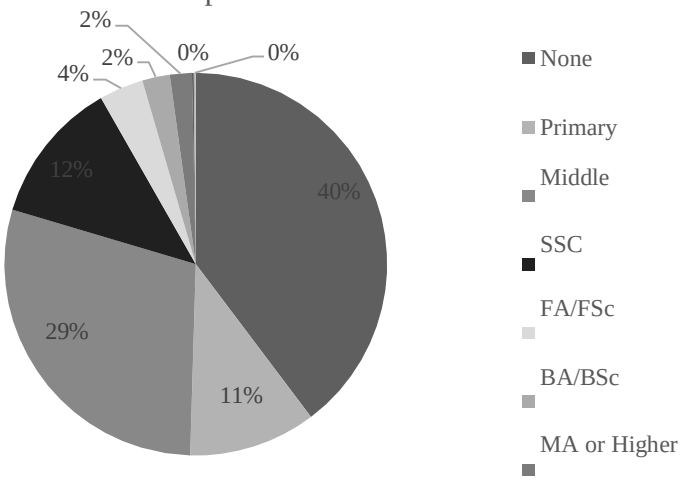

Figure 3
Respondent's vehicle ownership

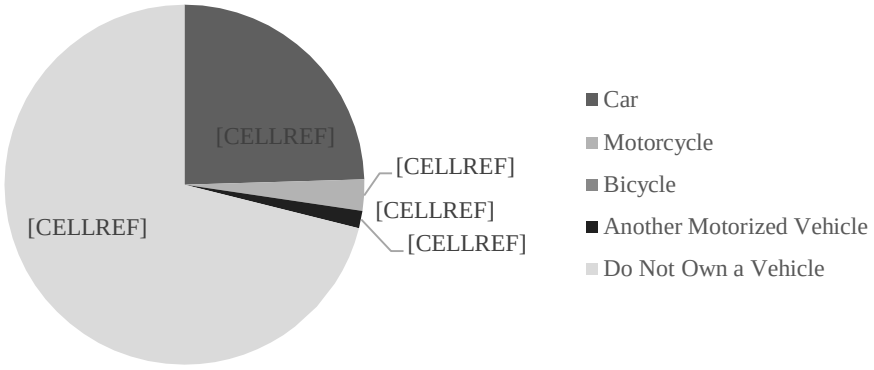

Figure 4
Respondent's home ownership

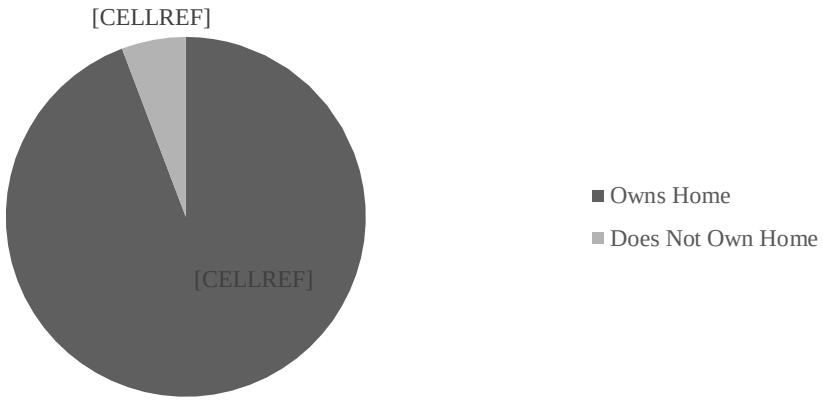

Figure 5
Respondent's land ownership

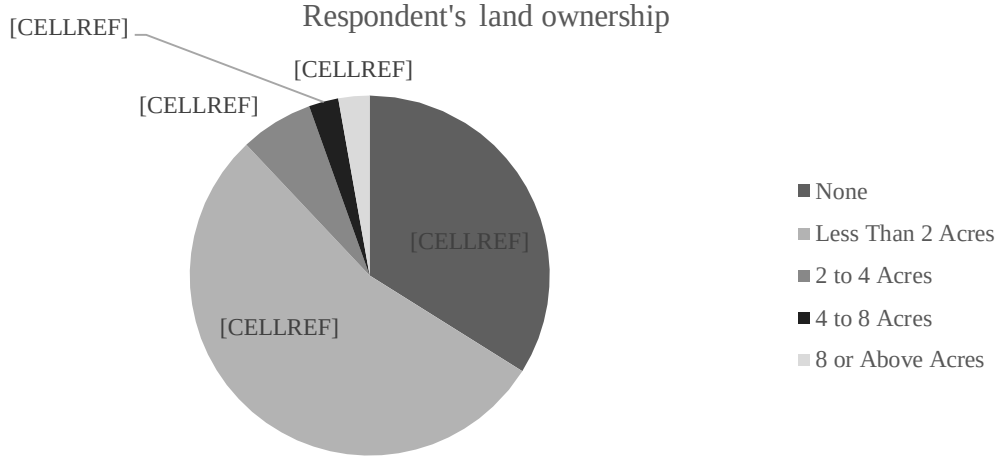

Figure 6
I believe that education is important for female children

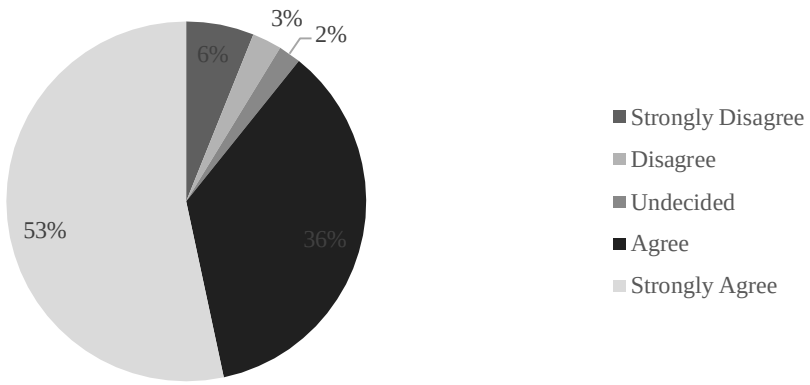

Figure 7
I would like for (name of student) to have a career?

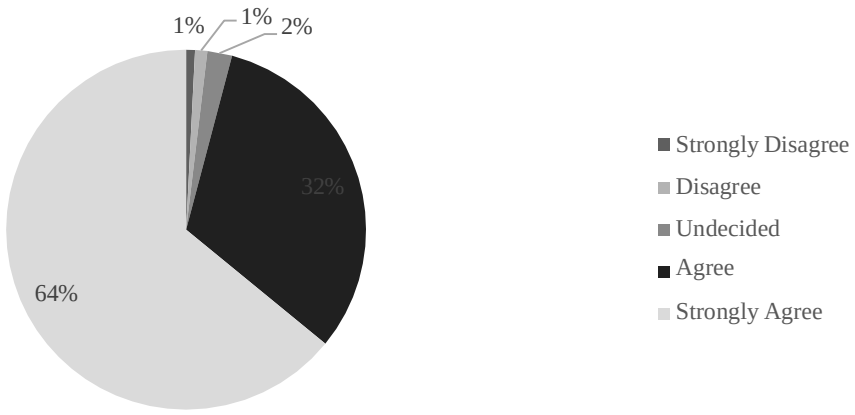

Figure 8
In my village, people believe that it is important for female children to attend school beyond the 5th class?

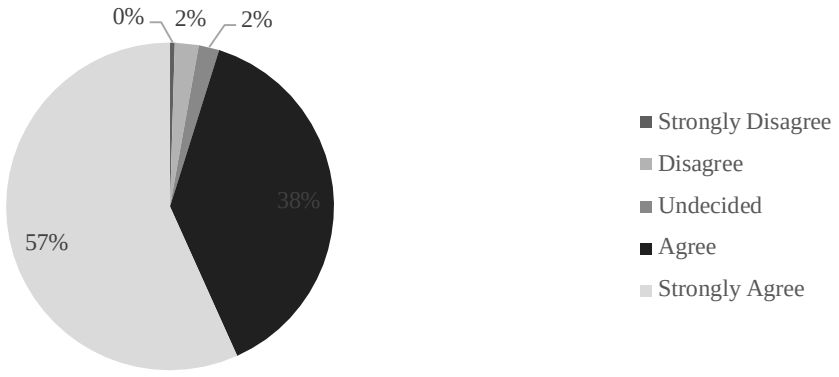

Figure 9
In my village, people believe that women should not have careers?

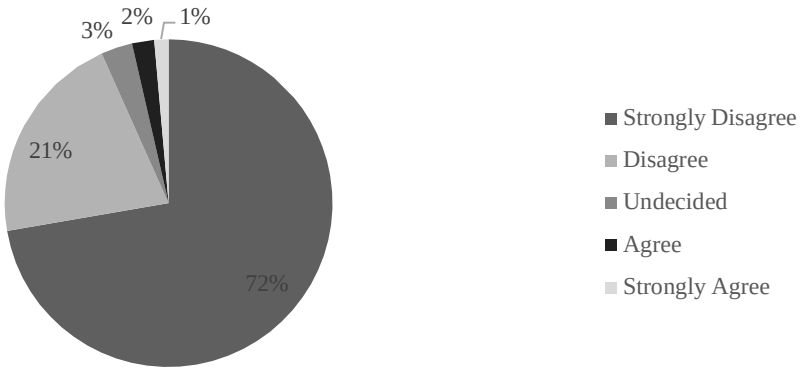

Figure 10
Are you aware that (name of student) is eligible for PKR 200 per month for attending school beyond the 5th class?

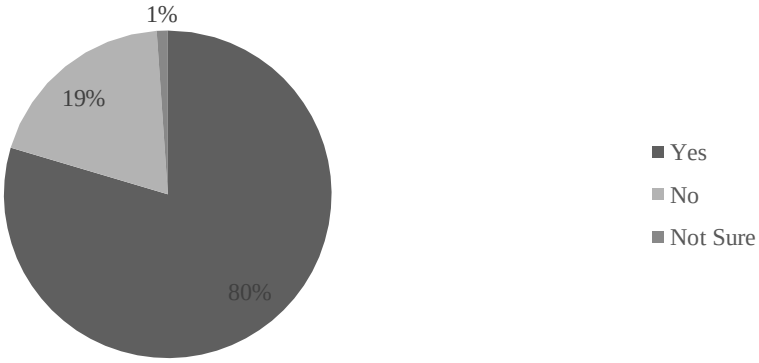

Figure 11

I belive that PKR 200 is adequate to promote attendance by female children beyond 5th class.

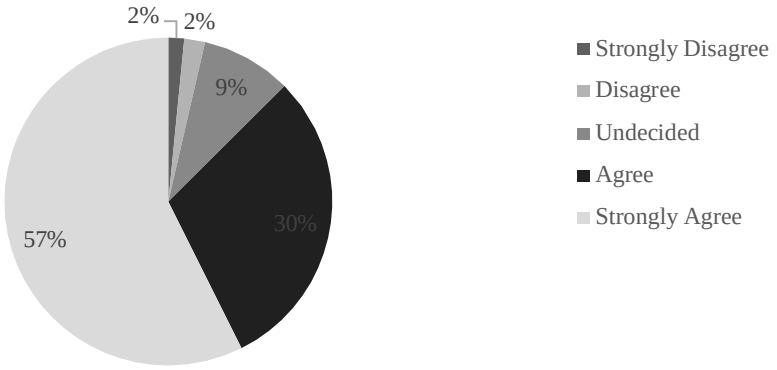

Figure 12

She does not attend school because we cannot afford school supplies

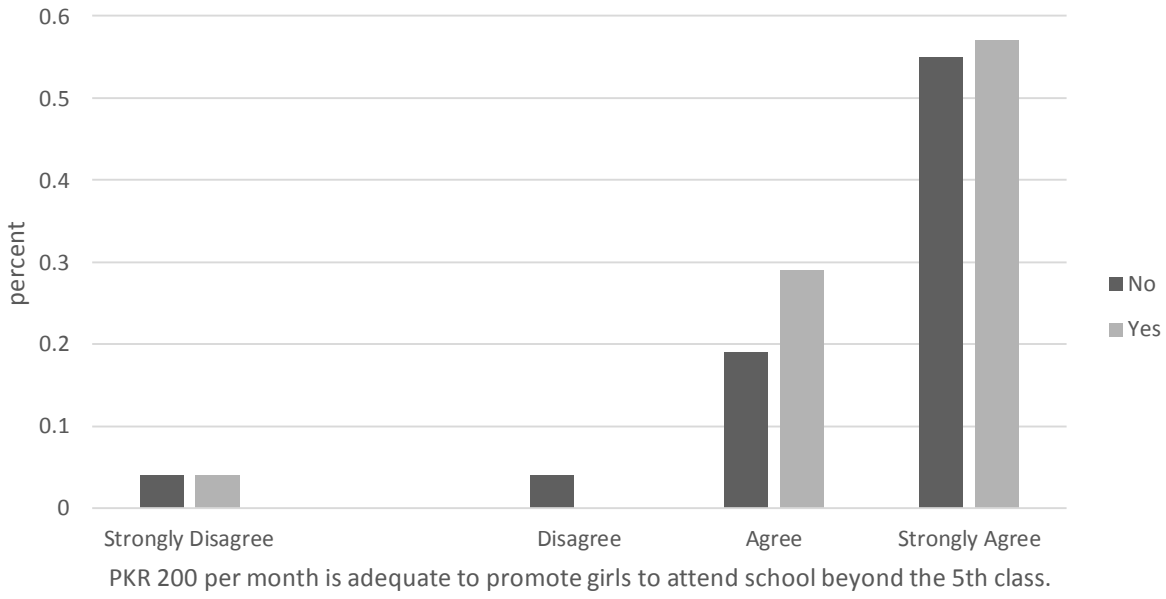

Figure 13
Attendance rates of girls attending school beyond the 5th class

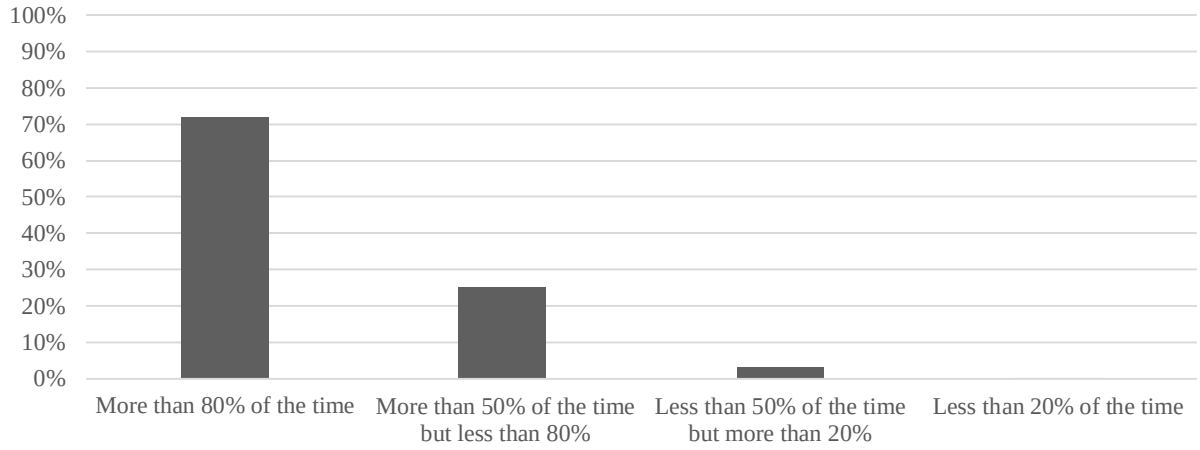

Figure 14
Reasons for less than 80 percent attendance rates of girls attending past the 5th Class

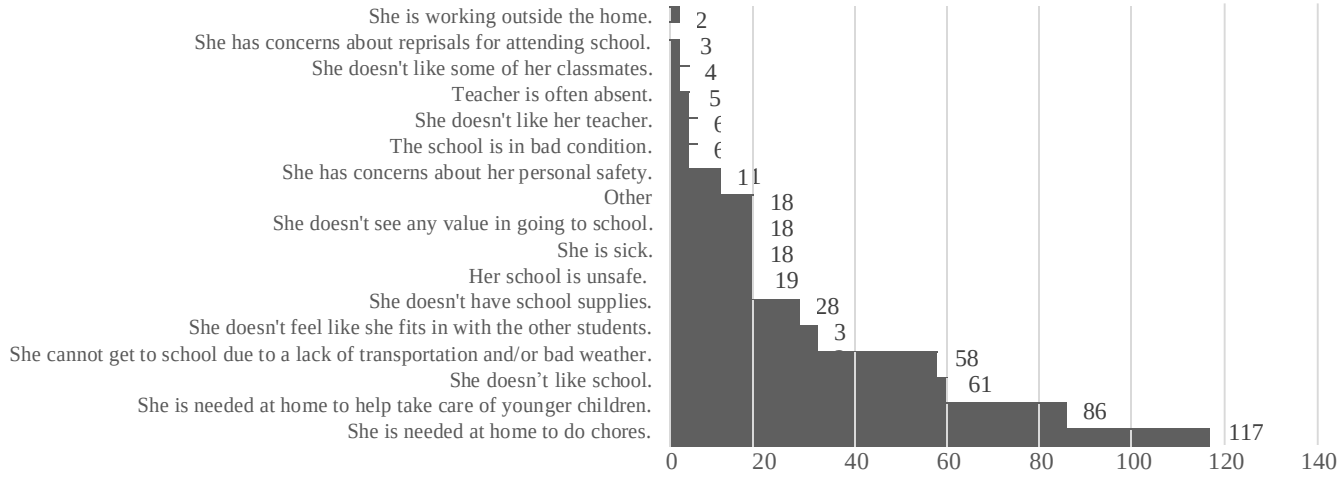

Figure 15
Reasons for girl child not attending beyond the 5th class

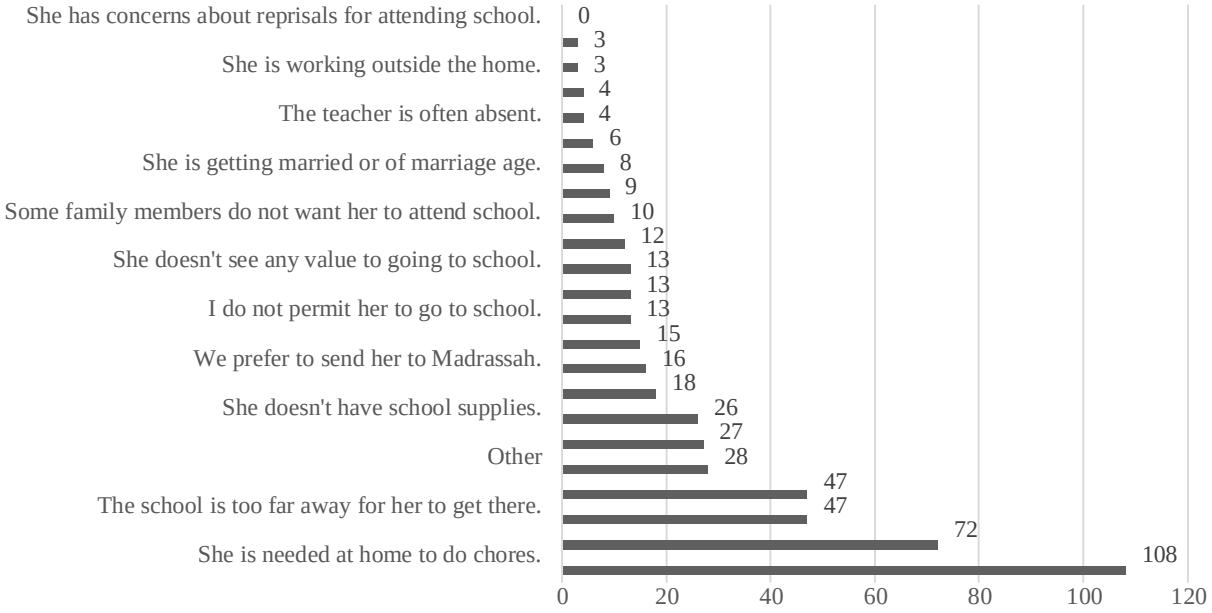

Table 16
She does not attend school because she is needed at home to take care of children.

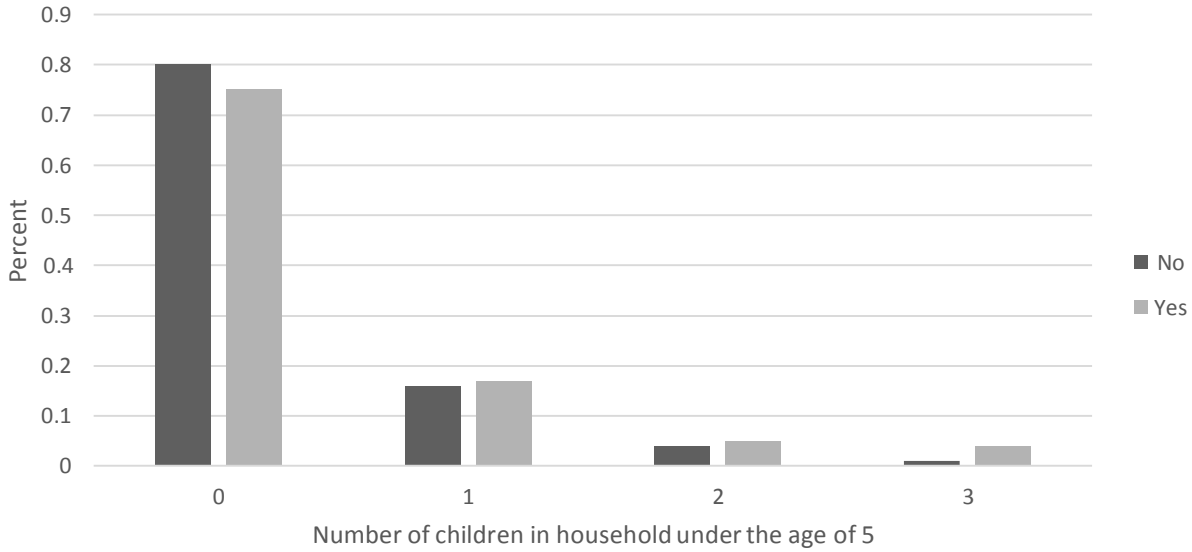

Figure 17
How do you use the stipend

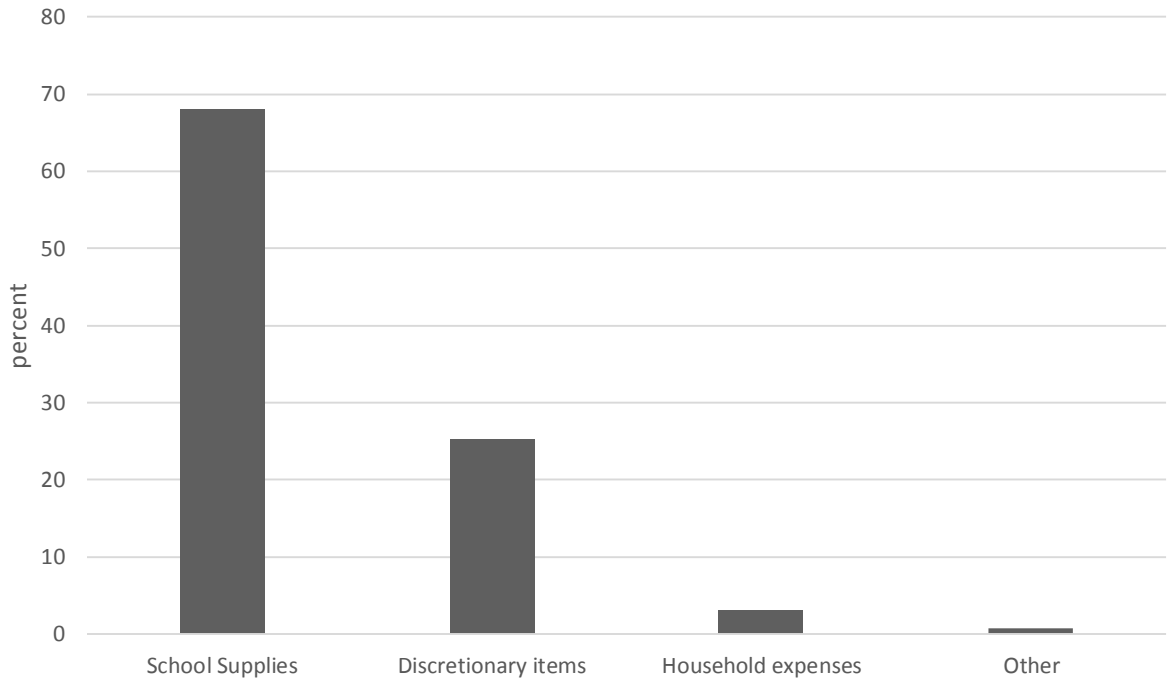

Table 1: Summary Statistics*

Variable	Mean	Standard deviation	Minimum	Maximum
Does your daughter attend beyond 5th class? (YES = 1)	0.795	0.404	0	1
Are you aware of eligibility for the girl stipend? (YES = 1)	0.796	0.403	0	1
PKR 200 is adequate to promote attendance? (YES = 1)	0.875	0.331	0	1
Education is important for female children. (AGREE = 1)	0.913	0.282	0	1
I would like my child to have career? (AGREE = 1)	0.981	0.136	0	1
People in my village believe going to school beyond 5th class is important for female student. (AGREE = 1)	0.972	0.165	0	1
Woman should not have a career. (AGREE = 1)	0.067	0.250	0	1
Number of children less than 5 years old	0.254	0.552	0	3
Distance to school (kilometers)	1.663	1.670	0	10
Walk to school (YES = 1)	0.751	0.433	0	1
Respondent's education (years)	2.302	1.190	1	4
Own home (YES = 1)	0.942	0.233	0	1
Own land (YES= 1)	0.661	0.474	0	1
Respondent's relationship to girl child (Mother = 1)	0.388	0.488	0	1

*Number of observations = 642.

Table 2: Estimated Marginal Effects
Does your daughter attend school beyond 5th class? (YES = 1)

Variable	Probit	Random Effects Probit	Random Effects Logit
Aware of eligibility for PKR 200 program? (YES = 1)	0.185***	4.778***	9.605***
	(0.050)	(0.554)	(1.373)
Education is important for female children. (AGREE = 1)	-0.015	-0.392	-1.010
	(0.017)	(0.630)	(1.408)
I would like my girl child to have a career (AGREE = 1)	-0.038	-1.221	-2.255
	(0.034)	(1.166)	(2.308)
People in my village believe going to school beyond 5th class is important for female student (AGREE = 1)	-0.017	-0.355	-0.708
	(0.016)	(0.831)	(1.734)
Woman should not have a career. (AGREE = 1)	-0.021**	-0.616	-1.253
	(0.009)	(0.653)	(1.420)
Number of children less than 5 years old	-0.003	-0.075	-0.175
	(0.004)	(0.261)	(0.556)
Distance to school (kilometers)	-0.004	-0.122	-0.250
	(0.004)	(0.116)	(0.253)
Walk to school (YES = 1)	-0.025	-0.574	-1.514
	(0.021)	(0.432)	(1.034)
Respondent's education (Primary = 1)	-0.013	-0.162	-0.379
	(0.019)	(0.547)	(1.283)
Respondent's education (Middle = 1)	-0.021	-0.409	-1.022
	(0.014)	(0.459)	(1.075)
Respondent's education (Higher = 1)	-0.021*	-0.625	-1.585
	(0.012)	(0.470)	(1.098)
Own home (YES=1)	0.027*	0.671	1.430
	(0.015)	(0.548)	(1.164)
Own land (YES= 1)	-0.016	-0.373	-0.749
	(0.011)	(0.359)	(0.819)
Respondent's relationship to girl child (Mother = 1)	-0.013	-0.613	-1.135
	(0.014)	(0.465)	(0.988)
Number of observations	634	634	634
Log-Likelihood	-53.58	-52.21	-51.85
District fixed effects	NO	Yes	YES
(Number of districts)	-	(17)	(17)
District-clustered standard errors	YES	NO	NO

Standard errors are in parentheses. *indicates significance at the 10 percent level; ** at the 5 percent significance level; and *** at the 1 percent significance level.

Table 3: Estimated Marginal Effects
Are you aware of eligibility for the girl stipend? (NO=1)

Variable	Probit	Random Effects Probit	Random Effects Logit
Education is important for female children. (AGREE = 1)	-0.070 (0.059)	-0.263 (0.231)	-0.514 (0.395)
I would like my girl child to have a career (AGREE = 1)	0.198* (0.109)	0.732 (0.486)	1.222 (0.825)
People in my village believe going to school beyond 5th class is important for female student (AGREE = 1)	-0.177* (0.102)	-0.743** (0.330)	-1.276** (0.568)
Woman should not have a career. (AGREE = 1)	0.282*** (0.063)	1.181*** (0.268)	2.022*** (0.462)
Number of children less than 5 years old	-0.018 (0.027)	-0.111 (0.125)	-0.216 (0.225)
Distance to school (kilometers)	0.035*** (0.013)	0.111** (0.045)	0.180** (0.079)
Walk to school (YES = 1)	0.073 (0.059)	0.462** (0.218)	0.891** (0.414)
Respondent's education (Primary = 1)	0.045 (0.082)	0.082 (0.207)	0.115 (0.361)
Respondent's education (Middle = 1)	-0.132** (0.059)	-0.678*** (0.186)	-1.309*** (0.358)
Respondent's education (Higher = 1)	-0.075 (0.054)	-0.327* (0.187)	-0.578* (0.335)
Own home (YES=1)	-0.001 (0.065)	0.021 (0.272)	0.083 (0.480)
Own land (YES= 1)	-0.043 (0.052)	-0.150 (0.158)	-0.281 (0.282)
Respondent's relationship to girl child (Mother = 1)	-0.019 (0.034)	-0.118 (0.174)	-0.185 (0.316)
Number of observations	636	636	636
Log-Likelihood	-287.9	-285.5	-284.9
District fixed effects	NO	YES	YES
(Number of districts)	-	(17)	(17)
District-clustered standard errors	YES	NO	NO

Standard errors are in parentheses. *indicates significance at the 10 percent level; ** at the 5 percent significance level; and *** at the 1 percent significance level.

Table 4: Estimated Marginal Effects
PKR 200 per month is adequate to send my daughter to school? (YES = 1)

Variable	Probit	Random Effects Probit	Random Effects Logit
Education is important for female children. (AGREE = 1)	0.026 (0.052)	0.199 (0.259)	0.402 (0.482)
I would like my girl child to have a career (AGREE = 1)	0.012 (0.075)	0.047 (0.465)	0.085 (0.787)
People in my village believe going to school beyond 5th class is important for female student (AGREE = 1)	0.168** (0.068)	1.023*** (0.329)	1.905*** (0.583)
Woman should not have a career. (AGREE = 1)	-0.263*** (0.026)	-1.529*** (0.276)	-2.621*** (0.482)
Number of children less than 5 years old	0.000 (0.013)	0.057 (0.142)	0.118 (0.267)
Distance to school (kilometers)	-0.012** (0.005)	-0.041 (0.052)	-0.079 (0.097)
Walk to school (YES = 1)	-0.046 (0.044)	-0.291 (0.236)	-0.662 (0.487)
Respondent's education (Primary = 1)	-0.054 (0.052)	-0.168 (0.270)	-0.294 (0.507)
Respondent's education (Middle = 1)	-0.010 (0.046)	0.180 (0.237)	0.337 (0.453)
Respondent's education (Higher = 1)	-0.036 (0.032)	-0.163 (0.219)	-0.245 (0.416)
Own home (YES=1)	0.085* (0.049)	0.463 (0.284)	0.825 (0.519)
Own land (YES= 1)	0.012 (0.039)	0.089 (0.199)	0.174 (0.393)
Respondent's relationship to girl child (Mother = 1)	0.045 (0.032)	0.390 (0.241)	0.757 (0.469)
Number of observations	633	633	633
Log-Likelihood	-188.4	-186.4	-186.6
District fixed effects	NO	YES	YES
(Number of districts)	-	(17)	(17)
District-clustered standard errors	YES	NO	NO

Standard errors are in parentheses. *indicates significance at the 10 percent level; ** at the 5 percent significance level; and *** at the 1 percent significance level.

Appendix

Survey Instrument

(figures in parentheses reflect the distribution of responses to a given question)

Section A: Demographics

1	Name of the Student				2	Age of the Student			
3	Your relationship with the student	Mother (249)		Father (312)	Grandmother (0)		Grandfather (12)		Other (Please Specify) (69)
4	Your age								
5	Name of the school last attended								
6	Name of the parent interviewed								
7	What is your occupation?								
8	Education	None (255)	Primary (69)	Middle (187)	SSC (78)	FA/FSc (24)	BA/BSc (15)	MA or Higher (12)	Professional Degree (MBBS Etc.) (1)	Darse Nizami (1)
9	Which of the following ethic group do you most identify yourself as a member of:	Pashtun (642)		Hindko speaking	Chitrali	Other (Please Specify):				
10	What type of vehicle do you own?	Car (157)		Motorcycle (18)	Bicycle (0)	Another motorized vehicle (10)			Do not own a Vehicle (455)	
11	Do you own your home?	Yes (605)				No (37)				
12	How much land do you Own	None (217)		Less than 2 acres (346)		2 to 4 acres (42)	4 to 8 acres (17)		8 or above acres (18)	
13	How far is the school from your house?									
14	How does your female child go to school? (means of transportation)									

13. Number of Children (Under the age of 18) in the household:

Number of Children	Gender	Age
Child 1		
Child 2		
Child 3		
Child 4		
Child 5		
Child 6		
Child 7		
Child 8		
Child 9		
Child 10		

14. How long have lived in this village?_____

Section B: Parental attitudes towards education:

S/No	Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
01	I believe that education is important.	(4)	(2)	(6)	(102)	(527)
02	I believe that education is important only for male children.	(382)	(195)	(15)	(33)	(17)
03	I believe that education is important for female children.	(39)	(17)	(13)	(230)	(342)
04	I encourage (name of student) to attend school.	(5)	(7)	(6)	(203)	(409)
05	I believe that attending school beyond the 5th class will improve (name of student) career prospects?	(4)	(10)	(20)	(205)	(403)
06	I would like for (name of student) to have a career?	(5)	(7)	(14)	(201)	(405)
07	In my village, people believe that it is important for female children to attend school beyond the 5th class?	(3)	(15)	(13)	(246)	(363)
08	I encourage my male children to attend school?	(306)	(192)	(17)	(48)	(78)
09	I believe that attending school beyond the 5th class will improve the future career prospects of male children?	(11)	(13)	(4)	(270)	(344)
10	In my village, people believe that it is important for children to attend school beyond the 5th class?	(2)	(4)	(8)	(248)	(379)
11	In my village, people believe that it is important for children to attend school beyond the 10th class?	(6)	(6)	(17)	(259)	(352)
12	In my village, people believe that women should not have careers?	(464)	(135)	(20)	(14)	(9)

Section C. Knowledge about the stipend for attendance for female children

1	Are you aware that (name of student) is eligible for a PKR 200 for attending school beyond the 5th class?	Yes(511)		No(124)		Not Sure(7)
2	I believe that PKR 200 is adequate to promote attendance by female children beyond class 5.	Strongly Disagree(10)	Disagree (13)	Undecided (57)	Agree (192)	Strongly Agree(366)
3	(Name of student) is attending school beyond class 5?	Yes(509)			No(131)	

If the answer to 3 above is Yes, please answer the following question; otherwise skip to question 7.

4. (name of student) receives a stipend for attending school. How do you use the stipend? (circle all that apply).

1. To buy school supplies.	(436)
2. Household expenses.	(20)
3. Medical expenses.	(0)
4. (name of student) gets to spend the stipend on discretionary items.	(162)
5. Other (please specify)	(5)

5. To the best of my knowledge, (Name of student) attends school (circle the one that best applies)

1. More than 80 percent of the time	(363)
2. More than 50 percent of the time but less than 80 percent	(126)
3. Less than 50 percent of the time but more than 20 percent	(15)
4. Less than 20 percent of the time	(1)

6. Why does (name of student) attend school?

1. She enjoys school.	(64)
2. She wants to go to school.	(191)
3. An education will help her to attain a better career.	(141)
4. An education will aid her in her duties as a wife and mother.	(11)
5. She will be better able to provide for us in old age.	(11)
6. Her education improves her abilities in her household chores.	(28)
7. An education will make her a well-rounded person.	(22)
8. An education will make her more attractive to her future husband.	(5)
9. An education will increase her future earnings potential.	(26)
10. Her friends attend school.	(1)
11. Women in our family and/or village attend school.	(2)
12. The school is in good condition.	(1)
13. She has a good teacher.	(3)
14. Other (please specify)	(0)

If the answer to question 5 is 2, 3, or 4, please answer the following question; otherwise you can STOP here.

7. What are the main reasons for (name of student) for missing school? (circle all that apply)

1. She is needed at home to do chores. (117)
2. She is needed at home to help take care of younger children. (86)
3. She is sick. (18)
4. She doesn't like school. (61)
5. She cannot get to school due to a lack of transportation and/or bad weather. (58)
6. She is working outside the home. (2)
7. Teacher is often absent. (5)
8. The school is in bad condition. (6)
9. She doesn't like her teacher. (6)
10. She doesn't like some of her classmates. (4)
11. She doesn't feel like she fits in with the other students. (32)
12. She doesn't have school supplies. (28)
13. She doesn't see any value to going to school. (18)
14. She has concerns about her personal safety. (11)
15. She has concerns about reprisals for attending school. (3)
16. Her school is unsafe. (19)
17. Other (please specify) (18)

8. Why does (name of student) not attend school? (circle all that apply)

1. I do not permit her to go to school.	(13)
2. The school is too far away for her to get there.	(47)
3. She is needed at home to do chores.	(108)
4. She is needed at home to help take care of younger children.	(72)
5. She is sick.	(13)
6. She doesn't like school.	(47)
7. She is working outside the home.	(3)
8. The teacher is often absent.	(4)
9. The school is in bad condition.	(18)
10. She doesn't like some of her classmates.	(6)
11. She doesn't feel like she fits in with the other students.	(27)
12. She doesn't have school supplies.	(26)
13. She doesn't see any value to going to school.	(13)
14. She has concerns about her personal safety.	(12)
15. She has concerns about reprisals for attending school.	(0)
16. She is getting married or of marriage age.	(8)
17. Girls from our family and/or village do not attend high school.	(4)
18. Some family members do not want her to attend school.	(10)
19. We cannot afford to educate her further.	(15)
20. Education leads to moral decay.	(3)
21. We prefer to send her to Madrassah.	(16)
22. Her school is unsafe.	(9)
23. Other (please specify)	(28)