



# FORMAN CHRISTIAN COLLEGE

(A CHARTERED UNIVERSITY)

**Socio-economic determinants of primary school dropout in Punjab, Pakistan.**

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### **Abstract**

The main objective of this study is to identify the key factors of primary school dropout in Punjab, Pakistan. A high primary school enrolment rate among children is considered a key indicator of the social and economic development of any country. It will be a quantitative study based on the secondary analysis. The Multiple Indicator Cluster Survey (MICS) will be used which was conducted by the Bureau of Statistics, Punjab in collaboration with UNICEF (United Nations Children's Fund) in 2017-18. Data will be analyzed by using Statistical Package for Social Sciences (SPSS) software. The study employed the advanced econometric technique "the logistic regression model" to identify the correlates of the problem, thereby analyzing the marginal effect of multiple attributes. The study revealed that causes of primary school dropout were couched in a certain demographic (place of residence), economic (family income), and Individual level (Child labor, Household chores, and age) factors. Decreasing primary school dropout rates requires comprehensive strategies. A multifaceted approach involving government, communities, civil society, and international organizations, is needed. These efforts should focus on breaking the cycle of poverty, protecting children's rights, and ensuring access to quality education for all.

**Keywords:** Primary school dropout, poverty, child labor.

## Introduction

The education sector of a country is considered one of the main pillars of its society. It plays a pivotal role in the development of that country. It is also considered as a major determinant of democracy. Those nations who have strong education systems, are the strongest in the world because education helps them in becoming developed nations (Zaman,2019). Consequently, individuals play their establishing roles in making healthy societies. This leads to the economic and social development of society. Hence we can also say that the economic development of any country is highly associated with educated human capital in the long run.

Since the start of the Education for All (EFA) campaign in 1990, developing countries have made remarkable progress in getting young children into primary education. Primary education is of the most importance because it is the initial gateway to increasing the literacy rate in any country. High enrollment rates in primary schools, can greatly help in increasing literacy in the country. Thus leading to social, political, and economic growth. Hence, primary education is the main indicator of social and economic development of any country.

Conversely, low enrollment and high dropout at the primary level, create hindrances in the way of increasing literacy in a country and consequently abstain the country from development. Out-of-school children and school dropouts are the major social, economic, political, and cultural threats to any nation.

UNESCO defined dropout students as:

*“A pupil who was enrolled at the beginning of the school years, but has left before the end of school years and was not enrolled elsewhere, is counted as a dropout”.*

In other words, Primary school dropout can be defined as:

*“An individual who is not attending any school or who has not completed primary school education or its recognized equivalent”.*

Another definition by UNESCO is as follows:

*“Leaving the school education, without having completed a started cycle or program”*

*“A pupil who was enrolled at the beginning of the school years, but has left before the end of school years and was not enrolled elsewhere, is counted as dropout”.*

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The proportion of worldwide out-of-school children was 26% in 2000, 19% in 2010, and 17% in 2018 (Bhatti & Awan, 2019). Despite this progress, 258 million children were out of school in 2018 out of which, three quarter were living in South Asia and sub-Saharan Africa (Bhatti & Awan, 2019). Girls have to face more restrictions than boys. Resultantly, 5.5 million more girls were found to be out of school as compared to boys in 2018 (Bhatti & Awan, 2019).

In a study, it was found that of all the students who were enrolled in schools in low-income countries, the dropout rate for children belonging to the poorest households was 66%, while it was 21% for children from the richest households (Zaman, 2019). Thus, for many developing countries like Pakistan, Kazakhstan, Tajikistan, India, Botswana, Uganda, Nepal, etc., the real problem is keeping children in school rather than getting them into school. A high school dropout rate in developing countries is not only detrimental to their future human resource development potential but also leads to underutilization of scarce resources (Huisman, 2009).

Pakistan falls under the category of countries with low literacy rates. Pakistan also has one of the lowest literacy rates among countries with comparable levels of economic and social development. For example, the adult literacy rate in Pakistan is 49% whereas the adult literacy rate in Vietnam and India is 94% and 52%, respectively (Smith, P. 2007).

Among South Asian countries, the percentage of students not reaching grade 5 in Nepal, India, Bangladesh, and Sri Lanka is 56%, 48%, 30%, and 3%, respectively. Pakistan ranks second to last among these countries, where an overall percentage of 50% of enrolled students do not reach the fifth grade (Smith, 2007). Similarly, the enrolment rate in Pakistan is also the lowest (43%) when compared to other south Asian countries like Nepal, India, and Sri Lanka (61%, 54%, and 66%, respectively) (Smith, 2007).

According to UNICEF, Pakistan is ranked 1<sup>st</sup> in South Asia and 2<sup>nd</sup> in the overall world after Nigeria, with 5.1 million out-of-school children (Rafique, 2020). Also according to UNICEF (2020), out of every 10 out-of-school children in the world, one is a Pakistani child. Of the total out-of-school children in South Asia, Pakistan contributes 33% (Rafique, 2020).

Universal primary education for children between 5-9 was also an MGD that Pakistan planned to achieve by 2015, but due to bad governance and less effective policies, Pakistan is still struggling to achieve this goal (Zaman, 2019).

Since independence, Pakistan has been facing issues like a low literacy rate, high dropout rate, and low enrollment rate. In an attempt to resolve these issues, Pakistan has also been working with UN organizations like UNICEF. Despite these efforts, Pakistan is still unable to achieve the target of universal primary education. Different programs have been launched in this regard but they all fell short in achieving their objective. For example: the government of Pakistan started a Social Action Plan in 1990, but it failed to achieve the expected objectives.

Pakistan spends 2.3% of its GDP on education. According to a report by UNESCO, the position of Pakistan is 130 out of 146 countries concerning education for all Development Index (EDI) and 47 out of 68 countries in terms of the SDGs concerning education (Lindner, 2023). Whereas in terms of female literacy, Pakistan is ranked 113 out of 120 countries (Lindner, 2023). In terms of primary education, girls in Pakistan are 1.6 times less likely to complete primary education as compared to boys (Lindner, 2023). When the literacy rate in Pakistan is considered, the percentage is 59%. While the literacy rate for males is 71% and for females is 48% (Lindner, 2023). Only 49% of girls are literate as compared to 81% of boys. Among the total number of primary school-aged children, 44% are out of school (Lindner, 2023).

According to a report by USAID, in 2009, 45% of students dropped out of primary school before completion. This means that only 33% of enrolled boys and 20% of enrolled girls complete primary education whereas 77% of enrolled boys and 80% of enrolled girls, drop out of primary school before completion (Khan, 2010).

In 2019, the GER (gross enrollment rate) for primary schools was 70%. Among those, 50% of children leave school before completion of primary education. Among the remaining 50%, only 30% i.e. 1 out of 3 children, complete their primary education and enroll in secondary education (Bhatti & Awan, 2019).

Primary education has also been included in sustainable development goals i.e. goal no. 4. The goal states that by 2030, both boys and girls must complete their free primary and secondary education. UN organizations like UNICEF and UNESCO along with local organizations, federal government, and provincial governments are working towards achieving this target however the progress so far has been slow. In fact, uninfluenced by all the efforts that have been made to increase the enrollment rate and decrease the dropout rate of students at least

till primary school, the ratio of students that are leaving primary schools before completion, remains consistent (Rafique, 2020).

Punjab, is the largest province of Pakistan, concerning of size of the population. As half of the population of Pakistan is residing in Punjab. Punjab also contributes 59% of the total GDP of Pakistan. Hence, it contributes largely to the development of Pakistan.

Many surveys have shown that generally boys and particularly girls in Punjab, have been deprived of their basic right to education. The final MIC report (2015) on education and literacy rate in Punjab indicates that the total net primary attendance ratio was 57.9%, for boys was, 58.9%, and for girls, the ratio was 56.8% (Rafique, 2020). While 41.9% were out of school (Rafique, 2020). Whereas total net dropout ratio was 41.9%; specifically, it was 34% for boys and 35% for girls (Rafique, 2020).

According to the Annual Status of Education Report 2015, the primary school enrollment rate in Punjab was 60% for boys and 40% for girls (Sheikh, 2016).

UNICEF claims that the primary school completion rate in Punjab is 66%, indicating that there is still a lot that needs to be done before achieving universal primary education (Mizunoya, 2022). A difference in completion rate can also be observed between rural and urban areas of Punjab. Urban and rich children have a completion rate of 77% whereas poor and rural children have a completion rate of 60% all over Punjab (Mizunoya, 2022). Similarly, differences can also be observed between different children belonging to different socio-economic statuses. Children belonging to the poorest wealth quantile have a much lower completion rate i.e. 33%, whereas the children belonging to the richest wealth quantile have a completion rate of 92% (Mizunoya, 2022).



Therefore, in addition to institutional weaknesses (quality of teaching, teaching environment, availability of teachers, lack of education, and financial resources), socio-economic and individual factors also play a major role in primary school dropout. Some of the leading socio-economic and individual factors that can be the causes of primary school dropout are; gender of the child, age of the child, household income, household wealth, geographical location, parents' education, etc. Other key factors such as poverty of households, distance from home to schools, gender of the household head, children to help with household responsibilities, poor learning environment at home, the health of children, etc. may also increase school dropouts.

Thus, understanding the key factors, involved in primary school dropout, is of prime importance. To achieve SDGs, it is the need of the hour that key factors and determinants of primary school dropout must be identified.

This thesis will focus on the socio-economic determinants of primary school dropout in Punjab.

It will be a quantitative study based on the secondary analysis. The Multiple Indicator Cluster Survey (MICS) will be used which was conducted by, the Bureau of Statistics, Punjab in collaboration with UNICEF (United Nations Children's Fund) in 2017-18. Data will be analyzed by using SPSS software.

**Research Question:**

What are the social, household, and individual factors of primary school dropout in Punjab, Pakistan?

**Hypothesis:**

**H1:** Socio-economic factors have an impact on primary school dropout rate

**H1<sub>1</sub>:** Child labor increases the odds of primary school dropout.

**H1<sub>2</sub>:** Hazardous work increases the odds of primary school dropout.

**H1<sub>3</sub>:** Household responsibilities increase the odds of primary school dropout.

**H1<sub>4</sub>:** Poverty increases the odds of primary school dropout.

**H2:** Household characteristics have an impact on primary school dropout rate

**H2<sub>1</sub>:** Students living in rural areas are more likely to drop out of primary schools as compared to students living in urban areas.

**H2<sub>2</sub>:** Household size increases the odds of primary school dropout.

**H3<sub>3</sub>:** The literacy status of the father decreases the odds of primary school dropout.

**H3<sub>4</sub>:** The literacy status of the mother decreases the odds of primary school dropout.

**H3<sub>5</sub>:** Mother's functional disability increases the odds of primary school dropout.

**H4:** Individual factors have an impact on primary school dropout rate

**H4<sub>1</sub>:** Female children are more liable to drop out of primary school as compared to male children.

**H4<sub>2</sub>:** The age of children increases the odds of primary school dropout.

**H4<sub>3</sub>:** Orphanhood increases the odds of primary school dropout.

**H4<sub>4</sub>:** Functional disability among children increases the odds of primary school dropout.

## Literature Review

This chapter will explore the existing literature on child dropout in Pakistan and its determinants. In a developing country like Pakistan, school dropout is an important social issue that arises from a combination of social, economic, individual, and demographic factors. Hence, this section will explore the existing literature on school dropouts around the world and in Pakistan.

Economic factors of primary school dropout are worth mentioning which may also include poverty, child labor, unemployed parents, vulnerability, unpaid family labor, sibling responsibility, cattle grazing, high cost of education, gender gap, security issues, distance from school, etc. (Rumberger, 2011).

In Punjab, Pakistan, overall 34% of the households are living below the poverty line (Farooq, 2020). Studies have shown that in Punjab, children from rich families are 6.75% less likely to drop out of school (Farooq, 2020). The chances of a primary school completion rate increase 3.99 times more if a child belongs to the richest quantile as compared to the poor wealth quantile (Rafique, 2020). Children belonging to wealthier families are more likely to stay in school, both in developing and developed countries (Rafique, 2020). Similarly, hungry children, have difficulty focusing in class, and those who do not have proper medical attention, do not perform well academically (Schargel, 2014). Hence, in addition to financial burden, poverty can also give rise to deprivation due to lack of food, illness, malnutrition, absenteeism, and diseases like HIV and AIDS etc.

On the other hand, studies have also revealed that children from poor families find it hard to concentrate in class and perform better, or even finish primary school because of the numerous

challenges they face at home. Another socioeconomic issue that gives rise to school dropout is the inability to meet expenditures, which ends up in child labor, especially for boys. Parents send their children to work. The dropout rate due to child labor is higher among boys as compared to girls (Huisman, 2009). According to PCLS (2020), 5.2% of boys and 4.7% of girls in Punjab, have to drop out due to child labor. Similarly, girls have to face multiple issues while going to school i.e. security concerns, long distance from school, and unavailability of transport (Rizwan, 2022). Many girls are bullied or harassed on the way to school. Hence, girls always prefer to attend school close to their homes, due to security reasons. Girls' primary school attendance can be increased by 16% in rural areas if they are easily accessible for girls (Farooq, 2013). The decision to drop out of school mainly depends upon the parents. Parental education level and employment status highly influence their perspective regarding their children's education and the importance of schooling (Huisman, 2009).

A father's education significantly impacts the child's likelihood of dropping out of school. Educated fathers serve as positive role models, set high expectations, and create a supportive environment that values education in Turkey (Tansel, 2002). In Punjab, Pakistan, children of illiterate fathers, are 36% more likely to drop out of school in Pakistan as compared to children of literate fathers (Farooq, 2020). Hence, along with the father's education playing an important role in a child's education, employment status is a dominant factor that affects the child's education and school dropout decisions. Fathers who are salaried employed or work in non-manual occupations are highly aware of the importance of education. Hence, they are likely to spend more on their children's education. Whereas for the self-employed fathers, after their children have hardly studied till primary level, the cost of education becomes more important for

them rather than the importance of education. A study from Thailand too, revealed that secondary education is of minor importance, for self-employed parents (Nicaise, 2000).

When the literacy and employment status of a father are combined, then an employed and literate father enhances the chances of the child staying in school, fostering academic success. In addition, the education and employment status of mothers play a significant role in a child's school dropout rate.

Financial stability from the father's employment reduces the need for the child to work. The father's understanding of education's value, coupled with his role modeling and encouragement, motivates the child to prioritize learning. Additionally, the father's provision of resources, guidance, and advocacy ensures a supportive environment for education. This combined effect cultivates a positive atmosphere that promotes the child's commitment to education and overall success in school. When a woman possesses higher qualifications or equal education compared to her husband, she often holds a stronger position within the household (Lindner, 2023). It has also been proven that children of employed mothers are 16.7% more likely to go to school whereas, children of women that are both employed and literate are 29% more likely to go to school (Farooq, 2020). Another study revealed that, in Uganda, mothers who earn daily through their access to micro-credit, gained the power to do a lot of things, that social norms previously denied them (Lakwo, 2007). With the mother's educational level, her employment status significantly affects the child's education. Girls from low-income and rural households tend to perform household chores in their mother's absence during the day (Farooq, 2020). A study revealed that 9.8% of girls in rural areas of Pakistan have to drop out of primary school due to household responsibilities (Khan, 2011).

In addition to parental literacy and employment status, the gender of the head of the household can also play an influencing role in a child's education. Studies have shown that children living in households headed by women, especially educated women, are more likely to attend school in African countries (Bammeke, 2008) and Punjab Pakistan ((Farooq, 2013).

However, the probability is different for girls and boys, girls from female-headed households are 19.6 % more likely to go to school in Punjab whereas boys from such households are 14.5% more likely to go to school (Rabia, 2015). Hence, we can say that patriarchal households are not very supportive of girl's education. However, in Punjab, 94.2% of heads of the house are male whereas, only 5.8% of heads of the house are females (Farooq, 2013). This indicates that all-important family decisions are likely to be taken by males, making it difficult for girls to complete their education.

Furthermore, individual factors like birth order, number of siblings, child's mental and physical health conditions, child's living arrangement and orphanhood, etc. also play a motivating role behind primary school dropout. The number and gender of children can significantly impact the availability of resources for the education of each child in a household (Huisman, 2009).

Birth order can also affect the enrollment of a child. Younger children are more likely to stay in school as compared to older ones. The reason is that older child is expected to do household chores or reduce the financial burden by earning some money. However, the opposite can also be seen. Whenever a financial crisis occurs, parents are more likely to secure the investment, which they have already made in the education of older children, even at the expense of educating their younger children (Khan, 2011).

Additionally, and importantly, demographic factors like age, sex, place of residence, and living arrangement (orphanhood or single parenthood) play a significant role in a child's education attainment. In developing countries, Girls in developing countries receive the least education. Parents with limited resources often want their sons to complete their education as they are usually expected to look after their parents in old age, that's why parents are more liable to invest in their sons' education as compared to daughters (Rabia, 2015). The age of a child can also affect his/her schooling. The probability of attending school decreases with an increase in age. Children between the age of 5-15 have a higher probability of attending school as compared to the children above the age of 15. The school participation in Punjab is highest at the age of 11.84 years. Whereas school participation for boys is highest at 12.15 years while for girls, it is highest at 9.35 years (Azid & Khan, 2010). Children of single parents are more likely to likely out dropout from school (Seltzer, 2009).

Along with economic, social, and individual factors and demographic factors, health factors also play an important role in determining a child's educational level and school dropout rate. Poor mental health of a child is significantly associated with dropping out of school. Stress, neuroticism, introversion, poor health, intellectual disability, and behavioral disorder are likely to increase the risk of primary school dropout. 12.5% of students leave the school due to difficulty in learning (Azid & Khan, 2010). It has been found that underprivileged children have poor memory and physical health. Such children also develop slow cognitive and reading skills with sluggish socioemotional progress. These children also lack basic reading skills like phonological recognition, lexicon, and verbal linguistics. School dropout is highly observed among such children. In Punjab, 58% of children, between the ages of 7-15 can accurately read numbers. 55% of children have number discrimination skills while 12.2% of children have additional

skills. Overall, only 4.2% of children have foundational numeracy skills while 32.8% of children have foundational reading skills (Azid & Khan, 2010).

## **Methodology**

### **Overview of methodology**

The main objective of this study is to identify the key factors of primary school dropout in Punjab, Pakistan. Dropout is a serious educational and social problem. The study specifically, focuses on primary school dropout because it is the initial gateway to increasing literacy in any country. Consequently, leads a country towards social political, and economic growth.

It will be a quantitative study based on the secondary analysis. The Multiple Indicator Cluster Survey (MICS) will be used which was conducted by, the Bureau of Statistics, Punjab in collaboration with UNICEF (United Nations Children's Fund) in 2017-18 <sup>[1]</sup>.

Data will be analyzed by using Statistical Package for Social Sciences (SPSS) software. The study employed the advanced econometric technique “the logistic regression model” to identify the correlates of the problem, thereby analyzing the marginal effect of multiple attributes.

### **Population/Sample**

The study used the MICS (2017-18) dataset. The total sample size for MICS (2017-18) was 53,840 households which were selected out of 2692 clusters, in Punjab. Out of these 52,765 households were occupied and 51,660 households were successfully interviewed with an overall response rate of 97.9%. Eligible respondents in the selected household include 79,510 women,



39,445 men, 39,799 infants (<5; Questionnaire administered to mother or caretaker), and 37,052 children (5-17; Questionnaire administered to mother or caretaker). The response rate was 93.1%, 68.7%, 93.8%, and 95.8% for women, men, infants, and children, respectively.

Out of the MICS (2017-2018) data set, a total of 11621 cases were selected. The selected cases were all between the ages of 5 - 17 years, who were enrolled in a primary school in the year before data collection.

Primary school dropout was the main dependent variable of the study. Out of the 11612 selected children that were enrolled in primary school in the year before data collection a total of 274 (2.4%) children had dropped out. The names and univariate statistics of the demographic, economic, household-level, and individual-level independent variables that were included in the study are reported in table 1:

### **Data collection methods**

MICS surveys utilize Computer-Assisted Personal Interviewing (CAPI). The data collection application was based on the CSPro (Census and Survey Processing System) software, Version 6.3, including a MICS-dedicated data management platform. Procedures and standard programs developed under the global MICS program were adapted to the MICS Punjab, 2017-18 final questionnaires and used throughout. The CAPI application was tested in the Lahore district in December 2017. Based on the results of the CAPI test, modifications were made to the questionnaires and application.

Data was analyzed using the Statistical Package for Social Sciences (SPSS) software, Version 24 Model syntax, and tabulation plan developed by UNICEF were customized and used for this purpose.

## Research Question

What are the social, household, and individual factors of primary school dropout in Punjab, Pakistan?

## Hypothesis

**H1:** Socio-economic factors have an impact on primary school dropout rate

**H1<sub>1</sub>:** Child labor increases the odds of primary school dropout.

**H1<sub>2</sub>:** Hazardous work increases the odds of primary school dropout.

**H1<sub>3</sub>:** Household responsibilities increase the odds of primary school dropout.

**H1<sub>4</sub>:** Poverty increases the odds of primary school dropout.

**H2:** Household characteristics have an impact on primary school dropout rate

**H2<sub>1</sub>:** Students living in rural areas are more likely to drop out of primary schools as compared to students living in urban areas.

**H2<sub>2</sub>:** Household size increases the odds of primary school dropout.

**H3<sub>3</sub>:** The literacy status of the father decreases the odds of primary school dropout.

**H3<sub>4</sub>:** The literacy status of the mother decreases the odds of primary school dropout.

**H3<sub>5</sub>:** Mother's functional disability increases the odds of primary school dropout.

**H4:** Individual factors have an impact on primary school dropout rate

**H4<sub>1</sub>:** Female children are more liable to drop out of primary school as compared to male children.

**H4<sub>2</sub>:** The age of children increases the odds of primary school dropout.

**H4<sub>3</sub>:** Orphanhood increases the odds of primary school dropout.

**H4<sub>4</sub>:** Functional disability among children increases the odds of primary school dropout.

### **Conceptualization and operationalization:**

#### **Independent Variables**

##### *Socio-economic Factors*

Socio-economic factors are external influences that affect an individual's academic performance and can lead to his/her decision to drop out of primary school. In the proposed study, socio-economic factors like migration, child labor, household responsibilities, external economic support for poor households, and support provided by schools, to poor students, will be included.

<b>Variables</b>	<b>Description</b>	<b>Coding</b>
Child labor	percentage of primary school-aged children who are involved in child labor.	The binary scale has been used to measure this variable. It will be indicated by: a) No b) Yes
Household chores	percentage of primary school-aged children, who have been engaged in household tasks in the past week.	It included the following categories: a) No b) Yes the binary scale has been used to measure this variable.

#### **Household Characteristics**

Household characteristics refer to the various attributes, features, and demographic information that define a specific household unit. These characteristics provide insights into the composition, living conditions, and socio-economic status of a household. In this study, characteristics like residence, wealth quantile, household size, and gender of the head of household, will be considered.

<b>Variables</b>	<b>Description</b>	<b>Coding</b>
Residence	Net primary school attendance ratio for rural residents divided by net attendance ratio for urban residents.	It has been indicated by two categories a) Rural and b) Urban hence, a binary scale has been used.
Wealth quantile	Net primary school attendance ratio for poorest wealth quantile divided by net attendance ratio for richest wealth quantile.	The ordinal scale has been used to measure wealth quantile. It has been indicated by the following categories: a) Poorest b) Poor c) Middle d) Rich e) Richest
Household size	average household size and mean number of persons per room.	The ordinal scale has been used. The scale comprised of: a) 2-3 b) 4-5 c) 6-7 d) 8-9 e) 10+

### **Parental support**

Parental support refers to the financial, and academic assistance that parents or caregivers provide to their primary school-aged children. It also refers to parental participation in school management. This study will see the effects of parental factors like parental education level, the mother's functional difficulty, and parental participation in school management, on primary school dropout.

<b>Variables</b>	<b>Description</b>	<b>Coding</b>
Father's education	number of schooling years attended by fathers of primary school-aged children.	It has been indicated by the following categories: a) None / Pre-schooling b) Primary c) Middle d) Secondary e) Higher The ordinal scale has been used
Mother's education	number of schooling years attended by mothers of primary school-aged children.	The ordinal scale has been used to measure this variable. It has been indicated as: a) None / Pre-schooling b) Primary c) Middle d) Secondary e) Higher
Mother's functional difficulty	percentage of primary school-aged children, whose mothers have functional difficulty.	It has been measured as: a) Has functional difficulty b) Don't have functional difficulty

### **Individual Factors**

Individual factors will explain the personal characteristics, attributes, and traits that are specific to a primary school-aged child. For example: age, gender, orphanhood, foundational reading and writing skills, and functional difficulty.

<b>Variables</b>	<b>Description</b>	<b>Coding</b>
Gender	Net attendance ratio for primary school girls divided by net attendance ratio for boys.	It will be indicated by the following categories: a) Male b) Female The binary scale will be used
Age	Child's age in years	The continuous scale will be used.
Orphan hood	percentage of primary school-aged children with one or no biological parents	It has been measured by the life status of the mother i.e. alive or dead. A binary scale will be used.
Functional difficulty	percentage of primary school-aged children with functional difficulty.	It has been measured by: a) Difficulty in seeing b) Difficulty in walking without assistance c) Difficulty in hearing The response category will comprise of following: a) No b) Yes The binary scale will be used.

### **Dependent Variable**

<b>Variable</b>	<b>Description</b>	<b>Coding</b>
Primary school dropout	percentage of primary school-aged children, who drop out of school before the completion of final grade.	The binary scale will be used. It has been indicated by: a) No b) Yes

**Model**

Child dropout = f (migration, child labor, household responsibility, external economic support, school-related support, residence, wealth, household size, gender of household, father's education, mother's education, mother's functional difficulty, participation in school management, child's gender, child's age, orphanhood, child's functional difficulty).

## Findings

Multiple logistic regression was performed to gauge the relationship between primary school dropout and the various demographic, economic, household level, and individual level variables included in the study. The results of the logistic regression are presented in Table 2.

**Table 1**

*Univariate statistics for Independent Variables (N=11612).*

Variable	Frequency	Percentage
<b>Demographic Variables</b>		
<b>Gender</b>		
Male	6196	(53.3)
Female	5425	(46.7)
<b>Residential Area</b>		
Rural	8205	(70.6)
Urban	3416	(29.4)
<b>Economic Variables</b>		
<b>Family Income (Wealth Quantile)</b>		
Poorest	2177	(18.7)
Poor	2675	(23.0)
Middle	2590	(22.3)
Rich	2339	(20.1)
Richest	1840	(15.8)
<b>Household Level Variables</b>		
<b>Household Size</b>		
2-3 members	415	(3.60)
4-5 members	2870	(24.7)
6-7 members	4296	(37.0)
8-9 members	2247	(19.3)
10 plus members	1793	(15.4)
<b>Mother's Education</b>		
None/Preschool	2645	(26.4)
Primary	1854	(18.5)
Middle	1731	(17.2)
Secondary	2428	(24.2)
Higher	1377	(13.7)
<b>Father's Education</b>		



None/Preschool	5825	(50.2)
Primary	2369	(20.4)
Middle	1033	(8.90)
Secondary	1331	(11.5)
Higher	1057	(9.10)
<b>Mother's Functional disability</b>	553	(4.8)
Yes	9672	(83.2)
No		
<b>Individual Level Variables</b>		
<b>Child Labor</b>		
No child labor	10531	(90.6)
Child labor	1090	(9.4)
<b>Hazardous work</b>		
Not hazardous	10895	(93.8)
Hazardous	726	(6.2)
<b>Household Chores</b>		
Don't do HH chores	4739	(40.8)
Do HH chores	6881	(59.2)
<b>Functional Disability 1: (Child uses Walking Aid)</b>		
No	11483	(98.8)
Yes	125	(1.1)
<b>Child wears Glasses</b>		
No	11324	(97.6)
Yes	284	(2.4)
<b>The child wears a Hearing Aid</b>		
No	11533	(99.4)
Yes	67	(0.6)
<b>Mother is Alive</b>		
Yes	11343	(97.7)
No	272	(2.3)
	<b>Mean</b>	<b>SD</b>
<b>Child's Age</b> (Range: 5 -17 Years)	9.84	2.20

\*missing values are not included.

The sample size included 11,612 respondents. Males cover the frequency of 6,169, which is 53.3% of the total sample size. While the frequency of females is 5,425, which is 46.7% of the total cases. 8,205 respondents were living in the rural areas, which is 70.6% and 3,416 respondents were living in the urban areas which is 29.4% of the total respondents. Mothers of

97.7% (of the target population were alive while 2.3% were those children whose mothers had passed away. Similarly, mothers of 4.8% of the target population were suffering from a functional disability while 83.2%, were not having any functional difficulty. The percentage of children who were using walking aids, hearing aids, or were wearing glasses, were 1.1%, 0.6,% and 2.4% respectively. Similarly, children who were not using walkinaidssid, heariaidsaid, or were not wearing glasses, contributed 98.6%, 99.4%, and 97.6% respectively, of the total respondents. 10.5% of children were economically active whereas, 89.5% were not doing any economic activity. 9.4% of sample size, contributes to child labor and 90.6% does not. Similarly, 6.2% of children were doing hazardous work while 93.8% were not doing any hazardous work. Children who had to do household chores were 59.2% and 40.8% of children did not have any such responsibility.

The mean value of a child's age is 9.8379, approximately 10. The standard deviation is 2.20144, which is way less than half of the mean. It indicates that most of the age was aligned around the mean and dispersion was very small.

## Table 2:

### *Logistic Regression results*

Variable	B	St. Error	Wald	Beta
Child Labor	<b>0.70**</b>	0.32	4.78	2.01
Hazardous Work	0.46	0.34	1.83	1.59
Household Chores	<b>0.31*</b>	0.17	3.21	1.37
Residence	<b>0.42**</b>	0.20	4.44	1.53
Gender	0.15	0.15	0.92	1.16
Child's Age	<b>0.37***</b>	0.04	113.36	1.45
Father Education				

<i>None/Preschool</i>			5.84	
<i>Primary</i>	0.27	0.20	1.87	1.31
<i>Middle</i>	0.02	0.23	0.01	1.03
<i>Secondary</i>	-0.08	0.24	0.13	0.92
<i>Higher</i>	-0.56	0.37	2.27	0.57
Mother Education				
<i>None/Preschool</i>			2.66	
<i>Primary</i>	-0.05	0.20	0.06	0.95
<i>Middle</i>	-0.57	0.41	1.96	0.56
<i>Secondary</i>	0.16	0.32	0.25	1.17
<i>Higher</i>	0.06	0.45	0.02	1.06
Mother Functional Disability	-0.32	0.34	0.91	0.72
Mother is Alive	-0.02	0.75	0.00	0.98
Number of Household Members				
<i>2-3 members</i>			3.83	
<i>4-5 members</i>	0.63	0.74	0.72	1.87
<i>6-7 members</i>	0.81	0.73	1.23	2.25
<i>8-9 members</i>	0.53	0.74	0.52	1.70
<i>10 plus members</i>	0.53	0.75	0.49	1.69
Child wears Glasses	0.21	0.44	0.23	1.24
Child wears Haring Aid	0.70	0.78	0.80	2.02
The child uses a Walking Aid	-0.42	0.77	0.29	0.66
Wealth Quantile				
<i>Poorest</i>			8.50	
<i>Poor</i>	<b>-0.33*</b>	0.20	2.78	0.72
<i>Middle</i>	<b>-0.65***</b>	0.24	7.04	0.53
<i>Rich</i>	<b>-0.59**</b>	0.28	4.31	0.56
<i>Richest</i>	<b>-0.76**</b>	0.39	3.81	0.47

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\* Significant at 0.1 level

\*\* Significant at 0.05 level

\*\*\* Significant at 0.01 level

### **Child Labor**

The coefficient for the variable "child labor" is 0.696. This coefficient represents the change in the log odds of the outcome associated with the presence or absence of child labor while holding all other variables constant. The variable has a positive relation with "primary school dropout". The value of standard error is 0.318 and odd-ratio is 2.005. This means that the presence of "child labor" increases the chances of primary school dropout by 2.005 times, compared to the absence of child labor. The p-value is 0.029, which indicates that the impact of this variable is significant in the model.

### **Hazardous Work**

The coefficient for the variable "hazardous work" is 0.463. This coefficient represents the change in the log odds of the outcome associated with the presence or absence of hazardous work while holding all other variables constant. The variable has a positive relation with "primary school dropout". The value of the standard error is 0.343. The odds ratio is 1.589. p-value is 0.177, which indicates that the impact of this variable is not significant in the model.

### **Household Chores**

The coefficient for the variable "household chores" is 0.312. This coefficient represents the change in the log odds of the outcome associated with the presence or absence of this variable while holding all other variables constant. The variable has a positive relation with "primary school dropout". The value of the standard error is 0.174. The odds ratio for "household chores" is 1.366. This means that the presence of "household chores" increases the chances of primary school

dropout by 1.366 times, compared to the absence of “household chores”. The P-value is 0.073, which indicates that the impact of this variable in the model, is marginally, significant.

### **Residence**

The coefficient for the variable "residence" is 0.423. This coefficient represents the change in the log odds of the outcome associated with rural or urban residence while holding all other variables constant. The variable has a positive relation with “primary school dropout” The value of standard error is 0.201. The odds ratio is 1.526. This means that children residing in urban areas are 1.526 times more likely to drop out from primary schools, compared to those residing in other places. The P-value is 0.036. which indicates that the impact of this variable is significant in the model.

### **Gender**

The coefficient of 0.148 indicates the change in the log odds of the binary outcome associated with a one-unit change in the "gender" variable. Since gender is typically coded as binary (e.g., male = 0, female = 1), a one-unit change can be interpreted as a change from male to female or vice versa. In this context, a positive coefficient suggests that being female is associated with slightly higher log odds of the outcome compared to being male. However, this effect is very small. The variable has a positive relation with “primary school dropout”. The value of standard error is 0.154 and the odds ratio is 1.159. p-value is 0.338, which indicates that the impact of this variable is not significant in the model.

### **Child's Age**

The coefficient for the variable "child's age" is 0.372. This coefficient represents the change in the log odds of the outcome associated with a one-unit change in the age of the child while holding all other variables constant. The variable has a positive relation with "primary school dropout". The value of the standard error is 0.035. the odds ratio is 1.451, which means that one unit change in the age of the child, results in a 1.451 times increase in the chances of primary school dropout. The P-value is 0.000 ( $< 0.05$ ), which shows that the impact of this variable is significant in the model.

### **Father's Education**

The coefficient for the first category of "father's education" is 0.269. This coefficient represents the change in the log odds of the outcome for individuals in this category and it has a positive relation with "primary school dropout". The odds ratio of 1.309, suggests that individuals, whose fathers fall into the first category of "Father's education" are approximately 1.309 times more likely to experience a primary school dropout. The value of standard error is 0.197, which is close to the beta value. The P-value is 0.172 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the second category of "father's education" is 0.024. This coefficient represents the change in the log odds of the outcome for individuals in this category and it has a positive relation with "primary school dropout". the odds ratio of 1.025, suggests that individuals whose fathers fall into the second category of "Father's education", are approximately 1.025 times more likely to experience a primary school dropout. The value of standard error is 0.228, which is close to the beta value. The P-value is 0.915 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the third category of "Father's education" is -0.084. This coefficient represents the change in the log odds of the outcome for individuals in this category and it has a negative relation with “primary school dropout”. The odds ratio of 0.919 suggests that individuals whose fathers fall into the third category of "Father's education", are approximately 8.1% less likely to drop out compared to the reference group. The value of standard error is 0.237, which is close to the beta value. The P-value is 0.722 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the fourth category of "Father's education" is -0.563. This coefficient represents the change in the log odds of the outcome for individuals in this category and it has a negative association with “primary school dropout”. The ratio of 0.569 suggests that individuals whose fathers fall into the fourth category of the "Father's education" category are approximately 43.1% less likely to experience primary school dropout. The value of the standard error is 0.374, which is close to the beta value. The P-value is 0.132 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Mother’s Education**

The coefficient for the first category of "Mother's education" is -0.049. This coefficient represents the change in the log odds of the outcome for individuals in this category compared to the reference group. The negative sign indicates that the first category of mother’s education has a negative relation with “primary school dropout”. Odds-ratio of 0.951 suggests that individuals whose mothers fall into this category are approximately 4.9% less likely to experience a primary school dropout, as compared to the reference group. The value of standard error is 0.202, which is close to the beta value. The P-value is 0.806 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the second category of "Mother's education" is -0.573. This coefficient represents the change in the log odds of the outcome for individuals in this category compared to the reference group. The negative sign indicates that the second category of mother's education has a negative relation with "primary school dropout". The ratio of 0.564 suggests that individuals whose mothers fall into this category are approximately 43.6% less likely to experience primary school dropout as compared to the reference group. The value of standard error is 0.409, which is close to the beta value. The P-value is 0.162 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the third category of "Mother's education" is 0.161. This coefficient represents the change in the log odds of the outcome for individuals in this category compared to the reference group. The category has a positive relation with "primary school dropout". The ratio of 0.161 suggests that individuals whose mothers fall into this category are approximately 0.161 times as likely to experience primary school dropout as compared to the reference group. The value of standard error is 0.322, which is close to the beta value. The P-value is 0.617 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the fourth category of "Mother's education" is 0.062. This coefficient represents the change in the log odds of the outcome for individuals in the category compared to the reference group. The category has a positive relation with "primary school dropout". The ratio of 0.062 suggests that individuals whose mothers fall into this category are approximately 0.062 times as likely to experience primary school dropout, compared to the reference group. The value of standard error is 0.451, which is close to the beta value. The P-value is 0.890 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Mother's Functional Disability**



The coefficient for the variable "Mother's functional disability" is -0.322. This coefficient represents the change in the log odds of the outcome associated with the presence or absence of functional disability in the mother while holding all other variables constant. The negative sign indicates that there is a negative relation between "mother's functional disability" and "primary school dropout". The odds ratio is 0.724. This means that the presence of functional disability in the mother decreases the chance of the child dropping out from primary school by 27.6%, compared to the absence of functional disability. The value of the standard error is 0.338, which is close to the beta value. The P-value is 0.340 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Mother is Alive**

The coefficient for the variable "mother is alive" is -0.019. This coefficient represents the change in the log odds of the outcome associated with whether the natural mother is alive or not while holding all other variables constant. The negative sign indicates that this variable has a negative relation with "primary school dropout". The odds ratio for "mother is alive" is 0.981. This means that the presence of the natural mother being alive, leads to a 1.9% decrease in the chances of a child's dropout from primary school, compared to the natural mother not being alive. The value of standard error is 0.752, which is close to the beta value. The P-value is 0.980 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Number of Household Members**

The coefficient for the first category "number of household members" is 0.628. This coefficient represents the change in the log odds of the outcome for individuals in households with a specific number of members falling into this category compared to the reference group. The category has a positive relation with "primary school dropout". The ratio of 1.874 suggests that

when there is a specific number of members in a household falling into this category, individuals are approximately 1.874 times as likely to experience primary school dropout, compared to the reference group. The value of standard error is 0.742, which is close to the beta value. The P-value is 0.397 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the second category of "number of household members" is 0.811. This coefficient represents the change in the log odds of the outcome for individuals in households with a specific number of members falling into this category, compared to the reference group. The category has a positive relation with "primary school dropout". Odds-ratio of 2.251 suggests that when there is a specific number of members in a household falling into this category, individuals are approximately 2.251 times as likely to experience primary school dropout, compared to the reference group. The value of standard error is 0.730, which is close to the beta value. The P-value is 0.267 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the third category of "number of household members" is 0.532. This coefficient represents the change in the log odds of the outcome for individuals in households with a specific number of members, falling into this category compared to the reference group. The category has a positive relation with "primary school dropout". Odds-ratio of 0.702 suggests that when there is a specific number of members in a household falling into this category, individuals are approximately 1.702 times as likely to drop out, compared to the reference group. The value of standard error is 0.739, which is close to the beta value. P-value is 0.472 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the fourth category of "number of household members" is 0.527. This coefficient represents the change in the log odds of the outcome for individuals in households with a specific number of members falling into this category, compared to the reference group. The

category has a positive relation with “primary school dropout”. An odds-ratio of 1.694 suggests that when there is a specific number of members in a household falling into this category, individuals are approximately 1.694 times as likely to drop out from school, compared to the reference group. The value of standard error is 0.753, which is close to the beta value. The P-value is 0.484 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Child wears Gasses**

The coefficient for the variable "child wears glasses" is 0.213. This coefficient represents the change in the log-odds of the outcome associated with whether the child wears glasses or not while holding all other variables constant and this variable has a positive relation with “primary school dropout”. The odds ratio for "child wears glasses" is 1.237. This means that the child wearing glasses is 1.237 times more likely to drop out from primary school, compared to the child not wearing glasses. The value of standard error is 0.441, which is close to the beta value. P-value is 0.629 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **The child wears a Hearing Aid**

The coefficient for the variable "child wears hearing aid" is 0.700. This coefficient represents the change in the log odds of the outcome associated with whether the child wears a hearing aid or not while holding all other variables constant. This variable has a positive relation with “primary school dropout”. The odds ratio for "child wears hearing aid" is 2.015. This means that children who wear hearing aids are 2.015 times more likely to drop out of primary school compared to children who do not wear hearing aids. The value of standard error is 0.783, which is close to the beta value. P-value is 0.371 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **The child uses Walking Aid**

The coefficient for the variable "child uses walking aid" is -0.416. This coefficient represents the change in the log odds of the outcome associated with whether the child uses a walking aid or not while holding all the variables constant. The negative sign indicates that this has a negative relation with "primary school dropout". The odds ratio for "Child uses walking aid" is 0.659. This means that children who use walking aids are 34.1% less likely to drop out of primary school, compared to children who do not use walking aids. The value of standard error is 0.769, which is close to the beta value. The P-value is 0.588 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

### **Wealth Quantile**

The coefficient for the first category of "wealth quantile" is -0.330. This coefficient represents the change in the log odds of the outcome for individuals falling into the first category of the wealth quantile group, compared to the reference group. The category has a negative relation with "primary school dropout". Odds-ratio of 0.719 suggests that when individuals fall into the first category of wealth quantile group, they are approximately 28.1% as likely to drop out, compared to the reference group. The value of standard error is 0.198, which is close to the beta value. P-value is 0.095 ( $> 0.05$ ), which shows that the impact of this variable is not significant in the model.

The coefficient for the second category of "wealth quantile" is -0.645. This coefficient represents the change in the log-odds of the outcome for individuals falling into the second category of wealth quantile group labeled, compared to the reference group. The category has a negative relation with "primary school dropout". The ratio of 0.525 suggests that when individuals fall into the second category of wealth quantile group labeled, they are approximately 47.5% as likely to drop compared to the reference group. The value of standard error is 0.243, which is close

to the beta value. P-value is 0.008 ( $< 0.05$ ), which shows that the impact of this variable is significant in the model.

The coefficient for the third category of "wealth quantiles" is -0.585. This coefficient represents the change in the log odds of the outcome for individuals falling into the third category of wealth quantile, compared to the reference group. The category has a negative relation with "primary school dropout". Odds-ratio of 0.557 suggests that when individuals fall into the category of wealth quantile group, they are approximately 44.3% as likely to drop out, compared to the reference group. The value of standard error is 0.282, which is close to the beta value. P-value is 0.038 ( $< 0.05$ ), which shows that the impact of this variable is significant in the model.

The coefficient for the fourth category of "wealth quantile" is -0.758. This coefficient represents the change in the log-odds of the outcome for individuals, falling into the fourth category of wealth quantile, compared to the reference group. This category has a negative relation with "primary school dropout". The ratio of 0.468 suggests that when individuals fall into the fourth category of wealth quantile, they are approximately 53.2% as likely to drop compared to the reference group. The value of standard error is 0.388, which is close to the beta value. P-value is 0.051 ( $=0.05$ ), which shows that the impact of this variable is significant in the model.

## Discussion

This research aimed at understanding the key factors of primary school dropout in Punjab. The main research question that this study explained, is “What are the social, household, and individual factors of primary school dropout in Punjab, Pakistan?”.

It was a quantitative study, based on secondary data analysis. The Multiple Indicator Cluster Survey (MICS) was used, which was conducted by, the Bureau of Statistics, Punjab in collaboration with UNICEF in 2017-18. The survey consisted of, 53,840 sampled households. However, 52,765 households were occupied and 51,660 households were successfully interviewed with a response rate of 97.9%. The target population was primary school-aged children (5-9) from Punjab, Pakistan.

The study employed the advanced econometric technique “the logistic regression model” to identify the correlates of the problem, thereby analyzing the marginal effect of multiple attributes.

This research assumed the following hypotheses, which aimed to measure the role of different socio-economic, household, and individual factors, in dropping out from primary schools in Punjab.

### **Summary of hypotheses:**

<b>Hypothesis</b>	<b>Description</b>	<b>Status</b>
H1	Socio-economic factors have an impact on primary school dropout rate.	Approved
H1 <sub>1</sub>	Child labor increases the odds of primary school dropout	Approved

H1 <sub>2</sub>	Hazardous work increases the odds of primary school dropout	Approved
H1 <sub>3</sub>	Household responsibilities increase the odds of primary school dropout.	Approved
H1 <sub>4</sub>	Poverty increases the odds of primary school dropout.	Approved
H2	Household characteristics have an impact on the primary school dropout rate.	Approved
H2	Students living in rural areas are more liable to drop out of primary school as compared to students living in urban areas	Not approved
H2	Household size increases the odds of primary school dropout	Approved
H2	The literacy status of the father decreases the odds of the child's dropping out of primary school	Approved
H2	The literacy status of the mother decreases the odds of a child's dropout from primary school.	Not approved
H2	A mother's functional disability increases the odds of a child's dropout from primary school.	Not approved
H3	Individual factors have an impact on the primary school dropout rate.	Approved
H3	Female children are more liable to drop out from primary schools as compared to male children.	Approved

H3	A child's age increases the odds of primary school dropout.	Approved
H3	Orphanhood increases the odds of primary school dropouts.	Not approved
H3	A child's functional disability increases the odds of primary school dropout.	Not approved

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The results of the logistic regression model show that residence (Urban/Rural), family income (wealth quantile), child labor, household chores, and child's age were significant determinants of primary school dropout in Punjab, Pakistan. A brief description of the results of the logistic regression is provided below.

A child's place of residence was found to be significantly related to their odds of dropping out. Specifically, children living in urban areas had 1.53 times greater odds of dropping out of primary school as compared to children living in rural areas. This finding is counterintuitive as the researchers expected that the children, especially girls, living in rural areas would be more susceptible to dropping out primarily due to limited or difficult access to schools. To explore the gender dynamics of this finding, two separate regression analyses were performed. Firstly, only the male cases in the sample were selected and a logistic regression was performed. Findings revealed male children living in urban areas had significantly higher odds of dropping out (1.75 times higher), compared to male children in rural areas. Secondly, only the female cases in the sample were selected and another logistic regression was performed. Findings revealed that there was no significant difference in the odds of dropping out for girls living in urban or rural areas.



Poverty also emerged as a significant predictor of primary school dropout. Compared to the children belonging to the poorest families, the odds of dropping out for children from poor, middle, rich, and richest families were 28%, 47%, 44%, and 53% less, respectively. These findings are consistent with previous literature that consistently identifies poverty as a major cause due to which children either remain out of school or drop out of school after enrollment. Similarly, consistent with prior literature child labor was also observed to be a significant predictor of primary school dropout. The odds of dropping out of primary school for children engaged in child labor were 2.01 times higher than for children who were not working. This finding had an interesting gender dimension, as after controlling for gender it was found that the odds of dropping out for female child workers were significantly higher (3.15 times) compared to girls who did not work, while there was no significant difference between the odds of dropping out for male working and non-working children.

Children who performed household chores had significantly higher odds (1.37 times) odds of dropping out as compared to children who did not do household work. Lastly, age was also observed to be a significant factor; as the age of a child increased by one year his or her odds of dropping out increased 1.45 times.

### **Limitations**

The main limitation of this study is that the data used in this study is Punjab-based data and has observations of Punjab only. It does not have information on other provinces such as KPK, Sindh, and Balochistan which have relatively higher dropout rates than Punjab. Secondly, this data is for a specific period, so we can't assess these children for a longer time and evaluate the reasons behind their dropout from school. Thirdly, the data had some missing values, which may have affected the analysis of the study because the mode of multivariate analysis does not

treat missing values. Also, only those socio-economic factors have been accounted which were available in the MICS 2017-18. Some of the factors like a number of siblings and birth order are not included because of the unavailability of data on these variables. Lastly, the study has used cross-sectional data, making it difficult to establish causality between the independent and dependent variables.

### **Recommendations and conclusion**

The present study revealed that causes of primary school dropout were couched in a certain demographic (place of residence), economic (family income), and Individual level (Child labor, Household chores, and age) factors.

The government of Pakistan should allocate more education budget, especially in the economically backward areas. They should specifically target the students who are at risk of school dropout due to child labor and poverty. More resources could enable the government to initiate early-childhood development programs and provide economic incentives like conditional-cash transfers to poor families. The government should also devise and implement restorative policies that are not punitive and focus on integrating child laborers into the education system. The government should also initiate educational awareness programs for parents.

To summarize, decreasing primary school dropout rates requires comprehensive strategies. A multifaceted approach involving government, communities, civil society, and international organizations, is needed. These efforts should focus on breaking the cycle of poverty, protecting children's rights, and ensuring access to quality education for all.

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