J. Asiat. Soc. Bangladesh, Sci. **47**(2): 173-190, December 2021 DOI: https://doi.org/10.3329/jasbs.v47i2.57280

FACTORS LEADING TO SECONDARY SCHOOL DROPOUT IN BANGLADESH: THE CHALLENGES TO MEET THE SDG'S TARGETS

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Abstract

Bangladesh is regarded as a success story for rapid economic development and changes in social indicators that have taken place in the last couple of decades. Enrolment in education, especially women's education, has reached a desirable level. However, the dropout rate in secondary education is still a concern, which has not been reduced to the desired level. This research aims to understand better the undisclosed causes of dropout at secondary level schools. The primary data were collected from 790 former secondary school level students and 1580 parents/guardians, enabling in-depth and systematic analysis of the issue.. The method used in this study is quantitative with logit analysis. The study results showed that students' perceptions on education, working experience, low socio-demographic status (SDS), family size, total number of siblings, food deficit, distance of the school, bullied by peers/teachers have a significant effect on increasing the probability of dropping out of school. Contrariwise, parents' academic support, NGO membership of family members, mobility to the local power structure, and government's social safety net programmes support are significant variables to reduce the probability of dropping out. The research reveals that financial problems are severely engaged to increase the dropout rate, and non-financial factors together aggressively play a catastrophic role and lead the academic life of the dropout student towards the end. The study suggests authorities for rapid response to reduce dropout, which leads Bangladesh to achieve SDGs targets and eventually become an upper middle-income country by 2041.

Keywords: Dropout, SDGs, SDS, Human capital, Social capital

Introduction

Bangladesh has emerged as the fastest-growing economy globally, with an average pace of 7% GDP per year during the last decade. According to Zafar *et al*. (2020), Bangladesh shifted out from the World Bank-defined list of low-income countries (LIC) to Lower Middle-Income Country (LMIC) in 2015, much earlier than the targeted date of 2021. In 2018, it met all the UN criteria to graduate from Least Developed Countries (LDCs) to a

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developing country. However, the latest estimated poverty rate reported by the Ministry of Finance (MoF) (2020) stood at 20.5 percent in 2019. Still, about one-fifth portion of the country's total population lives below the poverty line. Poverty has a cruel impact on education, especially on school dropouts. In Bangladesh, 10.3 million students attend secondary education in over 20,000 institutions and 246,845 teachers work at schools (BANBEIS 2020). Among 10.5 million enrollment, 5.6 million (54.41%) were girl students indicating that gender parity has got a momentum. At the beginning of the millennium, the secondary enrolment rate for girls was less than 40%. Although there is some progress, compared to growing countries, the completion rate is still low, and the dropout rate is high, which are the major challenges for quality secondary education. According to a government survey reports (BANBEIS 2011), the principal reason behind the high dropout rate is financial, which comes from poverty due to low-income financial problems. However, the reports and their findings have some deficiencies. The information is based on routine quarries and an aggregate report for all school levels. The survey also included out-of-school students who did not attend school. Therefore, the reports and present data do not have conceived the concept of whether students left secondary school mainly for financial problems or not.

Many previous studies have identified a strong relationship between financial problems and dropout. Still, little research has been carried out that investigated whether the factors affecting students to dropout vary by socio-demographic issues and how they compared.

Ahmed *et al.* (2010) conducted a study on ten high schools in rural areas of Brahmanbaria, Chandpur, Cumilla, Feni, Jessor, Munshiganj, Mymensingh, Naogaon, and Narshingdi districts with the assistance of Volunteers Association for Bangladesh (VAB), a US-based NGO (non-government organization). The study collected data over a period of six years and found that the dropout started slowly from class six and rose at up to 70% at class ten. The study also tried to explore the reasons for dropout. They argued that the students could not cope with the demands of their study and take the test exam at class ten. It also realized that the nationwide Secondary School Certificate (SSC) exam and in some cases, the parent's inability to afford the exam fees might explain the reasons for a sudden rise in dropout at class ten. The study finally confirms the prevailing views of the main reasons for dropout is poverty and its relevant factors.

Some studies usage respondents and learners who are still enrolled in school and compare with those who dropped out from school (South *et al.* 2007). It is observed that the usage of currently enrolled respondents and learners is inappropriate because there is no assurance that they will surely complete or graduate with SSC programme. If enrolled

students leave school before passing SSC, the results will be biased. Therefore, it is better to use graduated respondents instead of still enrolled respondents, compared to dropout students eventually.

Rumberger and Lim (2008) made reassessment in California, USA of the past 25 years of research on dropouts. They came up with two factors that anticipate whether students' dropout or graduate from secondary school. They categorized the factors associated with (i) individual characteristics which illustrates students' attitudes, behaviour, school performance, and (ii) factors associated with institutional characteristics, which denotes the respondents' families, schools, and communities.

For Bangladesh, people's awareness of the importance and significance of education needs to be enhanced in society to reduce the dropout and to capture better the benefit of demographic dividend and the fourth industrial revolution. Ingrum (2006) argued that if the dropout trend is not downsized or at least reduced to the desired level, the future of high school dropouts is anticipated to be grave. Ingrum (2006) also stressed the importance of more and more research on secondary school dropouts.

Investigation of the factors leading to secondary school dropout in Bangladesh regarding the challenges of meeting the Sustainable Development Goal's (SDG's) targets is vital because it can encourage government agencies, researchers of universities, school practitioners, community organizers, and other interested parties to construct effective policies with responsive strategies targeted at preventing dropout. Moreover, the efficient strategies and policies will, in the long run, support reducing poverty, ensuring people's welfare, and enhancing the nation's economic and sustainable development.

Methodology

The Primary data used in this research was collected in 3 phases. The survey created 16 primary sample units (PSUs) covering all administrative, demographic, and topological areas. The sample areas covered 8 administrative divisions, and 4 particular areas (*Char, haor, hill* districts, and *city corporation* areas) are 21,757.95 km^2 or approximately about 14.74% of the total area of Bangladesh and 5,130.00 km^2 or approximately about 3.47% in terms of upazillas. Following the objectives and the purpose of the presents study, 01 (one) district has been chosen from each division in which the literacy rate is low and from the selected districts 01 (one) upazilla taken from each in which the literacy rate is also very low. The study covered 2 schools from urban/municipal areas and 2 schools from rural areas and 1 madrasah randomly selected from each upazilla. A baseline survey was conducted in the selected 79 schools' catchment areas to identify the potential

respondents. The baseline data identified 1,50,188 ex-students as the population for this study who enrolled in Grade 6 (in the selected secondary schools) during the 2009-2020 academic year. In Bangladesh, every student at secondary level school must complete five years of schooling (from Grade 6 to Grade 10). At Grade 10 (final year of secondary school), there is a public examination to determine whether the student is competent to finish their education or not. The study uses two types of questionnaires, one for ex-students (who had either SSC passed or dropped out) and another for their parents/guardians. The study finally included the valid questionnaires of 790 ex-students (474 females and 316 males) and their 1580 parents/guardians (i.e., both mothers and fathers) who voluntarily responded. The data was computed mainly using Stata and SPSS software.

In the research, secondary school dropout is considered to be an individual who was enrolled as a regular student in secondary level school in Grade 6 (first year of junior secondary school) within the age[1] limit under a BISE (Board of Intermediate and Secondary Education) but left school permanently before completing secondary school (up to grade-10 or SSC) for reasons other than death. In addition, the learner who leave one school and is not enrolled in other formal education again or does not hold a certificate as a private examinee under any BISE or Bangladesh Open University (BOU)[2], or does not have a temporary absence from school due to expelling or illness.

The above definition was used as the selection criterion to identify the potential respondents. During the period of data collection at the field level, it was found that some students who were previously classified as 'dropout' students by their schools had passed SSC by either enrolling in another school or through participation in the programme of BOU or BISE as a private examinee.

Model specification

The research aims to analyze the impacts of individual, family, and school domain of factors, as well as Bangladesh government policy and social safety net programmes (i.e. Stipend, VGD/VGF) variables, on the probability of an individual to complete or dropout from secondary school education in Bangladesh.

[1] Age of regular students for appearing in the SSC Examination is at least 14 (Fourteen) years on 1st March of the year of examination. However, students above 18 (Eighteen) years old cannot study in class IX, and students above 19 (Nineteen) years old cannot study in class X as regular students.

[2] Currently, Bangladesh Open University (BOU) offers six programmes, including Secondary School Certificate (SSC).

First, the model specification of dropout in general form is adapted from Roebuck *et al.* (2004), as follows:

$$D_i = f\,(I, F, S, GPS)$$

Where *D* is a dichotomous measure of whether an individual *i* has completed secondary school or has permanently dropped out from secondary school education, *I* is a vector of individual domain factors variables, *F* denotes a vector of family domain factors variables, *S* represents a vector of school domain factors variables and *GPS* is a vector of government policy and social supports variables.

The next step is to turn the general model into an empirical model:

$$D_i = \beta_0 + \beta_i I_i + \beta_2 F_i + \beta_3 S_i + \beta_4 GPS_i + e_i$$

Where:

D_i = 1 if individual *i* is a dropout, and 0 otherwise (the dependent variable).

$\beta_1; \beta_2; \beta_3; and \beta_4$= Vectors of parameters to be estimated

I_i = Vector of individual domain factors

F_i = Vectors of family domain factors

S_i = Vectors of school domain factors

GPS_i = Vectors of government policies and social support

e_i = Error term.

i = 1, 2, …, *n*.

The empirical model is estimated separately in three domains of factors, i.e., individual, family, and school, along with government policy and social support areas.

The vector of individual domain factors (I) consists of 11 explanatory variables: Gender, age at first entry, working experience, perception of education, student's home location, grade repetition, previous academic performance (two variables), changing school experience, deviant behaviour, and health.

The vector of family domain factors (F) contains 19 explanatory variables: Family's Socio-Demographic Status (SDS) and Socio-Economic Status (SES), household head's education level, family size, parent's academic support, total sibling, sibling rank, sibling's dropout experience, parents are divorced, time helping family with household

chores, time helping family with daily business/work for income generating, ICT and internet facilities in family, washroom facilities in family, NGO membership, Mobility to the local power structure, Food deficit, Children not living with their parents and parent's participation in household decision-making.

The vector school domain factors (S) consist 10 explanatory variables: School location, relation with the teacher (two variables), bullied by peers and/or teachers, school curriculum (general secondary school versus vocational secondary school versus Madrasah), school type (public versus private secondary school), distance to school, transport, student's schooling expenditure, and teacher quality. The vector GPS consists of five explanatory variables: Government's Social Safety Net Programmes (SSNPs) support, School initiatives to help the economically backward student, real minimum wages, unemployment rate, and spatial dummy (two variables).

The present study uses the term 'log odds' to discuss the positive or negative signs of the coefficients of logit regressions. The term 'log odds' is formally used by Gujarati and Porter (2009) to interpret logit models. The present study uses average marginal effects and the odds ratios for a more meaningful interpretation of the logit models. This study conducts Likelihood Ratio (LR) tests. In LR tests, the null hypothesis (H_0) is that all the coefficients are equal to zero ($\beta_1 = \beta_2 = ... = \beta_K = 0$), and the alternative hypothesis (H_A) is that at least one or more coefficients are different from zero. $H_{0\ is}$ rejected if the p-value is smaller than 0.10. In other words, it is concluded that at least one or more independent variables are different from zero (Hosmer *et al*. 2013). The study also performs Wald tests. Wald χ^2 is obtained from a vector-matrix calculation. If the p-value of the Wald test is smaller than 0.10 (p-value < 0.10), there is not enough evidence to accept H_0, which implies that the study cannot accept the hypothesis that the model is not significant (Hosmer *et al*. 2013).

Results and Discussion

Before discussing the main results, it is required to check the overall significance of the results. As shown in Table 1, LR tests indicate that the model is statistically significant at the 1% level, which means that at least one or more coefficients of independent variables are different from zero. The Wald tests also show that the model is statistically significant at the 1% level, supporting the LR tests.

Table 1. Analysis of logit regressions using the main data sample.

Variable	Coefficient	Marginal effects	Odds ratios
Individual Domain Factors			
Gender (Female = 1, Male = 0)	0.06 (0.20)	0.87* (0.86)	1.07 (0.21)
Age at first entry	0.87* (0.47)	-0.21** (0.11)	2.40* (0.48)
Working experiences (Yes = 1, No = 0)	0.50** (0.24)	-0.08** (0.04)	1.65** (0.25)
Perception on education (Good = 1, Bad = 0)	0.44** (0.20)	-0.15*** (0.03)	1.54** (0.21)
Home location (Rural = 1, Urban = 0)	0.17 (0.23)	-0.02 (0.04)	0.89 (0.23)
Repeat grade (Ever repeated a grade =1, No=0)	-0.60 (1.85)	0.26 (0.30)	0.55 (1.86)
Frequency of repetition at grade	-0.64 (1.87)	0.56 (1.18)	0.56 (1.18)
Junior Secondary School Certificate Examination (JSC) Final Result:			
Low	0.22 (0.16)	0.01 (0.23)	1.25 (0.18)
Average	Reference	Reference	Reference
High	0.14 (0.20)	-0.04 (0.07)	0.95 (0.24)
Changing of school experience since primary	0.45** (0.20)	-0.08** (0.03)	1.57** (0.20)
Deviant behaviour (No deviant behaviour=0, up to six deviant behaviour=1)	-0.18 (1.18)	-0.01 (0.23)	4.64 (1.47)
Health condition (poor health=0, up to excellent health=6)	0.92 (1.19)	-0.001 (0.02)	0.57 (0.65)
Family Domain Factors			
Lowest socio-demographic status (SDS) (Yes = 1, No = 0)	0.63** (0.30)	-0.16** (0.07)	0.53** (0.30)
Lowest socio-economic status (SES) (Yes = 1, No = 0)	0.02 (0.18)	-0.03 (0.05)	1.02 (0.19)
Household head with at least SSC level education (Yes=1, No=0)	0.44 (0.42)	-0.17 (0.10)	1.56 (0.42)
Family size	0.20* (0.10)	-0.03 (0.02)	1.22* (0.10)
Parent's academic support (no support=0, Max support=4)	-1.38*** (0.39)	0.31*** (0.06)	0.39*** (0.36)

Variable	Coefficient	Marginal effects	Odds ratios
Total number of siblings in family	-0.19*** (0.07)	0.61*** (0.12)	3.11** (0.52)
Sibling rank in family (1=1st born, 2=2nd born, … 6= 6th or above born	1.13** (0.51)	-0.14 (0.08)	0.83*** (0.71)
Number of siblings dropout	0.57** (0.28)	0.11** (0.05)	1.78** (0.29)
Parents are divorced (Yes=1, No=0)	0.23 (0.33)	-0.001 (0.06)	1.26 (0.34)
Helping family with household works (Yes=1, No=0)	-0.39 (0.30)	0.06 (0.05)	0.68 (0.31)
Helping family with daily business works for income generating (Yes=1, No=0)	-0.09 (0.20)	0.03 (0.03)	0.91 (0.20)
ICT and internet facilities in family (Yes=1, No=0)	0.67 (0.41)	0.02 (0.05)	1.95 (0.41)
Comfortable washroom in family	0.02 (0.20)	0.005 (0.03)	0.98 (0.20)
NGO membership in family members (Yes=1, No=0)	0.60*** (0.22)	-0.08** (0.03)	2.50*** (0.56)
Mobility to local power structure (Yes=1, No=0)	0.86*** (0.30)	0.05 (0.05)	0.42*** (0.30)
Food deficit in family (Yes=1, No=0)	-0.18** (0.09)	0.23** (0.09)	0.83** (0.09)
Children not living with their parents (Yes=1, No=0)	-0.20 (0.51)	0.02 (0.09)	0.82 (0.52)
Differently able person in family (Yes=1, No=0)	-0.42 (0.33)	0.003 (0.02)	1.11 (0.22)
Parent's participation in household decisions making (No=0, Max participation=15)	1.76 (1.40)	-0.27 (0.17)	5.87 (1.40)
School Domain Factors			
School location (Rural = 1, Urban = 0)	0.14 (0.17)	0.03 (0.06)	1.16 (0.18)
Relation with teacher:			
Not good	0.01 (0.32)	-0.06 (0.05)	1.01 (0.31)
Neutral	Reference	Reference	Reference
Good	-0.15 (0.17)	-0.09* (0.03)	0.98 (0.19)
Bullied by peers and/ or teachers (Yes=1, No=0)	0.23 (1.20)	-0.04 (0.23)	1.23 (1.20)
Major Stream of education (General, Vocational and Madrasah)	0.66** (0.30)	-0.07*** (0.02)	1.94** (0.31)

Variable	Coefficient	Marginal effects	Odds ratios
School's type (Public=0, Private=1)	0.68**	0.12***	0.50**
	(0.30)	(0.05)**	(0.31)
Distance of school form home	0.53***	-0.09***	1.70***
	(0.20)	(0.03)	(0.20)
Vulnerability of the school going transportation	-0.12	-0.01	0.89
	(0.13)	(0.01)	(0.14)
Log of school's expenditures	-0.55	-0.02	0.58
	(0.33)	(0.04)	(0.33)
Teachers' quality (Good=1, not good=0)	-0.20	0.03	0.81
	(0.21)	(0.03)	(0.21)
Government policy support and poverty improvement			
Government's Social Safety Net Programmes (SSNPs) support (i.e. Stipend, VGD/VGF)	-0.33	-0.09*	0.71
	(0.30)	(0.04)	(0.30)
School initiatives to help the economically backward student	-0.16 (0.19)	0.004	1.00
		(0.04)	(0.22)
Topological analysis of sample area			
Mainland (8 Divisions)	1.85***	0.93***	2.82***
	(0.65)	(0.12)	(1.08)
Char area (Raumari)	2.95**	0.30	0.70*
	(5.21)	(2.94)	(0.49)
Haor area (Austogram, Itna, Nikli)	4.91***	0.63***	4.94***
	(1.64)	(0.11)	(5.90)
Beel and low land area (Chalanbil)	0.57*	0.27*	9.61*
	(1.48)	(0.25)	(11.18)
Hill area (Lama)	2.99	0.32*	2.57
	(2.23)	(0.18)	(6.15)
Urban area (4 City Corp., both of Dhaka, Rajshahi and Khulna)	-2.05*	-0.53**	0.41*
	(1.73)	(0.66)	(0.74)
Unemployment rate	0.24	-0.02	1.28
	(0.25)	(0.05)	(0.26)
Nature of temporary employment	0.03	-0.22	0.97
	(0.10)	(0.13)	(0.11)
Log of real minimum expected wages	0.15	-0.11	1.16
	(0.08)	(0.08)	(0.08)
Number of observation	790		
Likelihood Ratio (LR)	78.22***		
Wald χ^2	96.30**		

Notes: Dependent Variable = School dropout (Dropout = 1, Graduated = 0); ***p ≤ 0.01; ** p ≤ 0.05; * p ≤ 0.10. A constant is also included but its coefficient is not reported here. Standard errors reported in parentheses. Reference = base category; Baseline explanatory variables are underlined.

Logit coefficients presented in the above table are obtained from the following equation:

$$Li = In\left(\frac{Pi}{1-Pi}\right) = \beta_0 + \beta_1 X_1 + \cdots + \beta_i X_i + \mu_i$$

Table 1 presents the estimated coefficients from logit regression. This study does not attempt to interpret logit coefficients because their interpretation is not as straightforward as in the case of Ordinary Least Squares (OLS) regressions coefficients. The interpretation of the coefficients is discussed in the next section by computing the average marginal effects and the odds ratios. It is important to understand that average marginal effects and odds ratios summarize the results differently. This part only discusses the positive or negative signs of the coefficients of logit regressions.

The discussion starts with individual domain factors. Not surprisingly, with the variable being statistically significant, it can be inferred that being a female student, results in higher log odds of dropping out than being a male student. Early marriage and pregnant students contribute to the high number of dropouts. In the questionnaire results, pregnancy is the main reason for female students' dropout. If students are the victim of early marriage and become pregnant, they only have one choice to leave voluntarily from school.

Students' perceptions about education are also statistically significant and positively impact dropping out. Moreover, students who repeat a grade while in secondary school have a higher likelihood of dropping out. Similarly, getting low grades at the previous level of schooling also contributes to higher log odds of dropping out, than students who get average grades. Students with more deviant behaviour significantly increased the log odds of dropping out. Only one explanatory variable in individual domain factors significantly impacts reducing dropout. As expected, valuing school more is associated with lower log odds of students dropping out.

One of the important family domain factors variables is the lowest socio-demographic status (SDS). It is a proxy for social contribution and describes factors of the family status. This study finds that students dropped out of school due to their families having many children. The variable lowest socio-demographic status (SDS), indicating the number of members in a family, was constructed to test whether the student's claim is supported by quantitative analysis. The estimates indicate that having a higher number of family members significantly increases the log odds of a student dropping out, and they are statistically significant. The finding shows that larger family size matters and contributes to dropout. For example, the survey shows that only 5% of the respondents had no sibling, 9% had only one sibling, and 86% had two siblings or more. As the

estimates indicate, having many family members can contribute to dropout; therefore, the long-run strategy is to start the family planning campaign again, especially targeting poor SDS families.

Also, having more siblings who dropped out of school is likely to increase the log odds of dropping out, and the presence of siblings who dropped out is likely to provide a role model that encourages other siblings to leave school. This study does not find any evidence that helping families with household works for variable and helping families with daily business work for the income-generating variable is associated with the log odds of dropping out. Further, there is no evidence to support the correlation between parents' participation in household decision-making variables with dropout.

Another important family domain factor variable is the lowest socioeconomic status (SES), and it is a proxy for poverty and describes factors of the family status. The survey observes that about 37% of dropout respondents expressed that they left school because of financial problems. In addition, more than half of respondents in the qualitative analysis also stated that financial problems are the main reason for them to leave school. The quantitative analysis shows that students from families with the lowest socioeconomic status are more likely to dropout (Table 1). There is strong quantitative evidence that poverty affects student dropout.

A variable named Household head with at least SSC level education was created. It is found that household heads with at least SSC level education are correlated with lower log odds of students dropping out. The results also indicate that parents' higher support of students' academic activities significantly reduces the log odds of students dropping out. With the concept of social capital, it has been discussed previously that parents' academic support is one form of social capital. As proposed by social capital theory (Stone 2001), the positive attention given by parents to their children is important for transmitting available human, social and financial capital to children (Teachman *et al.* 1996).

The estimates for school domain factors indicate that students from urban schools have significantly higher log odds of dropping out than those who studied in rural schools. Students who have a bad relationship with a teacher are more likely to dropout of school. At the same time, it is shown that students who have good relationships with teachers are more likely to stay in school (in comparison with those who only have a neutral relationship with teachers). This result supports social capital theory (Stone 2001) that the density of positive interaction between teachers and students improves students' human capital accumulation.

Being bullied by peers and/or teachers significantly increases the likelihood of dropping out. The government's social safety net programmes (SSNPs) support for poor students significantly reduces the log odds of dropping out. The Schools' financial and other initiatives to help the economically backward students also reduces the log odds of dropping out. The result supported a previous study by Khandker *et al.* (2021) in Bangladesh. Khandker *et al*. (2021) conclude that stipend has a significant effect on student dropout at the secondary school level. They reiterate that the subsidies to female secondary education through stipends and other forms of assistance are considered a direct and observable way to incentivize parents to educate girls at that level where gender disparity is high and persistent. The perceived wisdom is that since educating girls at the secondary level is costly for parents in developing countries for different reasons (both social and economic), providing subsidies for girls through stipends would be a way to promote secondary education, thus reducing dropout and persistent gender gaps.

Analysis of Average Marginal Effects for Logit Regressions

Most of the average marginal effect values are similar to the coefficients from OLS regressions, except for the perception of education variable. The average marginal effect values are slightly lower than the OLS coefficients. The estimates can be interpreted to imply that female students have an 87% higher probability of dropping out than male students on average. The difference between female and male students indicates that student dropout is not less likely because of gender bias in Bangladeshi culture. Instead, it could be due to the discrimination against female students in school. According to Roy and Basher (2021), the government recently enacted law '*The Child Marriage Resistant Act 2017*' and corresponding rules 2018 replacing the old Act of 1929, negatively influencing female dropouts. The marriageable age for females and males is 18 and 21 respectively, which is also discriminatory. Its' '*special provision*' allows child marriage with the court's permission, and the consequences are reflected in the education of the girls' students (Yasmin 2021; Roy and Basher 2021).

Students who believe that education is important for them, have a higher probability of finishing their study. It can be concluded that a good perception of education is one of the important explanatory variables as there is a 15% point difference between students who have a good perception of education and those that have a bad perception of education on average. Therefore, it is important to add strategies for raising students' awareness about the benefits of education for their future. The students from very low SDS families have a 16 % point higher probability of dropping out than students from high

SDS families on average. It is also shown that students from impoverished families have a 3 % point higher probability of dropping out than students from wealthier families on average. The 16 % point difference between low and high SDS families indicates that dropout is not solely a poor students' problem. Similarly, the 3 % difference in SES between poor and wealthier families indicates that dropout is not excessively a poor students' problem. This is also consistent with the survey that only 37% of dropout respondents withdraw from secondary school because of financial issues. In comparison, the other 63% of dropout respondents withdraw because of other reasons.

Having household heads that hold an SSC degree reduces the probability of dropping out by about 17% points compared to those who do not hold such qualifications on average. It is important to note that students who are raised in educated families have a better perception of education. It shows a significant effect of having educated parents compared to having non-educated parents.

The average marginal effect also shows that students who have a good relationship with teachers have a 9 % point lower probability of dropping out of school than those who only have a neutral relationship with teachers. It is recommended that teachers have a responsibility to create good relationships with their students.

Interpretations of Odds Ratios

Table 1 shows the odds ratios for logit regressions. The discussion begins from the individual domain factors. It can be seen from the Table 1 that odds of dropping out for female students are 1.07 times greater than the odds for male students, or the odds of dropping out for females are about 107% higher than the odds of dropping out for males. The odds of dropping out reduce by 1.54 times when students have a good perception of education compared to students who do not. In other words, the odds of dropping out for students who have a good perception of education are about 54% lower than the odds of dropping out for students who do not have a good perception of education.

The odds of dropping out for students who stay in rural areas are nearly two times higher than those who drop out for students who remain in urban areas. The odds of dropping out increase 1.25 times for students who have a low grade of Junior Secondary School's (JSC) final examination compared to students who have an average grade of Junior Secondary School's national final examination. When holding other independent variables at a fixed value, the odds of dropping out of a school, for a one-unit increase in

the number of changing schools since primary school increase by a factor of 1.57, or there is a 57% increase in the odds of dropping out for a one-unit increase in the number of changing schools since primary school. Also, the odds ratio for the Deviant behaviour variable indicates that keeping other independent variables at a fixed value, there is a4.64 times, or 364%, increase in the odds of dropping out for a one-unit increase in deviant behaviour.

For Family domain factors, the odds of dropping out for students who are from the lower socio-demographic status are 1.89 times higher than the odds of dropping out for students who are not from the lower socio-demographic status, which implies that the odds of dropping out for poor SDS students are about 89% higher than the odds of dropping out for students from higher SDS families. Similarly, the odds of dropping out for students who are from the lowest socio-economic status are 1.02 times higher than the odds of dropping out for students who are not from the lowest socio-economic status, which implies that the odds of dropping out for poor students are about 2% higher than the odds of dropping out for students from wealthier families. Students who have a household head with at least SSC level education have lower odds of dropping out by 1.56 times than their counterparts who have household heads with no SSC level education, or the estimate indicates that the odds of dropping out for students from more educated families are about 56% lower than the odds of dropping out for students from less-educated families.

When other independent variables are constant, for a one-unit increase in parent's academic support, there is 0.39 times, or a 61%, decrease in the odds of dropping out. Furthermore, the odds ratio indicates that having more siblings who dropped out of school increases the students' odds of dropping out by 1.78 times, , which implies that dropping out for students is 78% higher for additional siblings who dropped out of school.

For School domain factors, the odds of dropping out for students who study in urban areas are 1.16 times as large as for students who study in rural areas, which implies that the odds of dropping out for students who study in urban areas are 16% greater than the odds of dropping out for students who study in rural areas. Moreover, having a good relationship with teachers decreases the odds of dropping out by 0.98 times. Students who have a good relationship with teachers are 2% less likely to dropout than students who have a neutral relationship with teachers. Students who their peers and/or teachers bully have 1.23 times, or 23%, higher odds of dropping out than when compared to students whose peers and/or teachers do not bully.

The government's social safety net programmes (SSNPs) support (i.e., Stipend, VGD/VGF) for poor students successfully reduces the odds of dropping out by 0.71 times or it also indicates that the odds of dropping out for students who receive financial assistance from the government are 29% lower than the odds of dropping out for students who do not receive the assistance. Finally, the odds of dropping out are 9.61 times as high as for students who live in *Beel* and the low land area of Bangladesh. Similarly, the odds of dropping out for students residing in *Haor* areas are 4.94 times, 2.82 times in mainland, 2.57 times in Hill area, 0.70 times in *Char* areas, and 0.32 times city corporation areas of Bangladesh reported (see Table 1).

The high dropout rate is a key concern of meeting the SDG's targets. Bangladesh has employed full of its concentration to implement the United Nations Sustainable Development Goals (SDGs), which were adopted in September 2015, consists of 17 specific Goals and 169 Targets, and it's closely linked 232 unique indicators to assess the progress to be achieved by 2030 (Jeffrey *et al.* 2021). Sustainable Development Goal 4 (SDG 4) represents education, "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", consisting of 10 targets and 11 indicators. The high dropout rate of secondary level education will impede on most of the targets of SDG 4 and create partial challenges on other goals and targets.

Progress on SDG4 of Bangladesh by indicators is not come out in a good position. The high rate of school dropouts is one of the major concerns. The competency of children and young people achieving at least a minimum proficiency level in reading and doing mathematics by sex, Bangladesh is trailing back in achieving the SDG milestone for this indicator. According to a study, the minimum proficiency in reading Bangla is 54% (55% boys and 54% girls) of the students at the end of junior secondary level. Similarly, English reading proficiency is only 19% (22% boys and 18% girls). The students' minimum proficiency in mathematics is 57% (62% boys and 52% girls) (DSHE, 2016). The dropout and out-of-school children are not included here. The deficiency of competent teachers has treated a major reason for this poor performance.

The improvement in the proportion of schools with access to basic services and facilities has a wide opportunity for establishing equity. As per Global Education Monitoring Report (GEMR 2016), around 76.86% of the schools have access to electricity, 8.36% have access to the internet for pedagogical purposes, and 17.9% of the schools have computers for pedagogical purposes. Bangladesh needs to cover a long distance to achieve SDGs milestones for this indicator.

A paradigm shift is expected in the education sector by achieving the targets of SDG4 through the implementation of 8th Five Year Plan (8FYP) (GED, 2020). One of the major constraints that education and training face is the scarcity of resources (public and private investments). The government targeted to increase allocations through the 8FYP. However, the Perspective Plan 2041 (PP2041) set ambitious targets of increasing government spending in education to 4% of GDP by FY2031 and 5% of GDP by FY2041. Following those targets, government spending is targeted to raise 3.5% of GDP by FY2025. Currently, government's education spending is low, introduced a maximum of 2.47% in 2017, but downsized again in the following years to around 2% of GDP. The private sector investments need to be encouraged for quality education.

The lack of adequate student learning outcomes remains one of the major concerns and they are depriving of mastery skills and competencies. Additional teaching can be provided to those students willing to stay after school to improve their learning. Studies have shown that remedial assistance keeps students in school longer and lowers the dropout rate. Qualified, efficient teachers can enhance the education outcomes. The study reveals that the need for skilled teacher's development strategy meets the 21st centuries learning gap of the students.

The opportunity of demographic dividend is knocking at the door. In this respect, the high rate of school dropout and low schooling of the working age people need a positive change. The present study reveals that 37% of students show only financial and 63% non-financial factors for their school dropout. It suggests addressing the dropout problem in light of the demographic features of Bangladesh. Now Bangladesh is in the process of the demographic dividend. At present, working population (age group 15-64) is about 106.1 million (65%) (The Financial Express 2020). It is predicted that after 2040, the depended population ratio trend will increase, and economic growth will continue to shrink if other things remain the same. However, in the right way, reducing the high dropout, Bangladesh is supposed to capture the demographic dividend opportunity.

It is recognized that school dropout is not mere by a problem for quality education. It compresses the individual income enhancement and sends the country into the vicious cycle of poverty. The present study identified the root causes and their severity. Further research also desired to eventually make the stakeholders and the policy planners aware of specific interventions. However, the research also suggests that the students need alternative parenting support as most parents have low schooling and are unable to guide their children properly.

Conclusion

The research reveals that financial problems are severely engaged to increase the dropout rate and non-financial factors together aggressively play a calamitous role and lead the academic life of the dropout student towards the end. The study realizes the economic effect of school dropout and its consequences for the future economic development of Bangladesh. The study also explores that poverty is not the only reason for school dropout, and other reasons also contribute to increasing the likelihood of school dropout. To achieve the targets and goals of SDGs, and Upper Middle-Income Country (UMIC) status, there is no alternative but to reduce dropout to ensure quality education for all. The study suggests authorities for rapid response to reduce dropout, which will lead Bangladesh to achieve the targets of SDGs and come out an upper middle-income country by 2041.

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(Revised copy received on 23.11.2021)