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Before reaching the finish line: incompletion of the tenth grade of schooling in Nepal

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Objective: Incompletion of the basic levels of education is known to adversely affect the social and economic well-being of individuals, as well as a nation's prosperity. This paper analyzes the correlates of selected characteristics associated with the incompletion of 10th grade among students in Nepal.

Data and methods: Data on 2,812 youth in ages 18–24, extracted from the 2016 Nepal Demographic and Health Survey, are used to analyze the proportion of youth who did not complete the 10th grade. The variations by contextual, household, and individual characteristics are analyzed through descriptive and multivariate logistic regression.

Results: Among the age group of 18–24, the majority – 64% of males and 69% of females – did not complete secondary school. Household wealth showed a consistent and strong effect on incompletion. Overall, the household wealth variable accounted for much of the variation in the incompletion of the 10th grade across the country's provinces. Additionally, being married is associated with a higher likelihood of incompletion of secondary school, net of the influence of other factors.

Conclusion: In Nepal, a significant number of students do not complete the 10th grade of schooling. Sustained efforts, through targeted policies and interventions, are needed to ensure that students who begin secondary school do not leave before completing their education.

KEYWORDS

Nepal demographic and health survey, youth population, incompletion of secondary education, schooling dropout, Nepal

Introduction

Dropping out of school before the completion of a grade/level is known to result in adverse consequences for the individual concerned, as well as for society at large. Compared to the students who completed high school, high school dropouts in the United States have been found to end up having lower earnings, adverse health conditions, lower levels of civic participation, and contributing less to the economy – overall reflecting a considerable social and economic cost to society (Belfield and Levin, 2007). Despite this, leaving school before the completion of a particular grade remains a problem in both developed and developing nations (Bridgeland et al., 2006; Doll et al., 2013; Fortin et al., 2006; Hannum and Buchmann, 2005; Huisman and Smits, 2015; Ricard and Pelletier, 2016). Various theories exist exploring the reasons for early dropouts, and conversely, how school retention rates for students can be maintained (Battin-Pearson et al., 2000). These theories encompass individual attributes, family support, social capital, and the school system in general. Battin-Pearson et al. (2000) found that among the five

theories they tested, no single theory was adequate to explain the reasons for high school dropouts in the United States, implying that dropping out is a complex issue that cannot be easily fixed with a simple set of solutions. Before identifying possible approaches for addressing these problems, as a first step, it is important to assess who the dropouts are, so that possible solutions could be more strategic and effective.

A focus on understanding school dropouts has started to emerge across the countries at the regional level in South Asia (UNICEF, 2014). The incompletion of the secondary level of education remains high, particularly in Bangladesh, India, and Nepal. Based on survey data (2014–2016) that employed a similar methodology, the percentage of girls (in ages 20–24 at the time of the survey) who did not complete their secondary level of education was found to be 41% in Bangladesh, 37% in India and 30% in Nepal (Bajracharya et al., 2019; MoE, UNICEF, and UNESCO, 2016).

Nepal has a young population structure; exactly half of its total population is under 24 years of age. About one in five people is in ages 15–24, the age-group that is defined as the "youth" (World Health Organization [WHO], 1989). The education, and subsequently the skillset possessed by this youth population, could largely define the quality of human capital available for Nepal's nation-building – and thus, also impact the country's economic and social progress in the future. Therefore, it is imperative to determine who has access to education and, more importantly, the basic level of education the youth population has attained.

Recent evidence suggests that the disparity in educational attainment between males and females that long existed in Nepal has, as of 2016, nearly disappeared (Thapa, 2020). Further, the percentage of the youth population with no education has also been reduced to less than 10%. With the scenario of nearly universal access to education, the second tier of the challenge is to ensure that those who begin schooling also complete their secondary levels of schooling. In light of the current status of the research on school dropouts, and the availability of a national-level survey carried out in Nepal in 2016, the objective of this paper is to assess the extent of the incompletion of the secondary level of schooling and then to identify the factors associated with the incompletion of schooling among both male and female youth in Nepal. Such information could help shape the formation of new policies, while also contributing to the fine-tuning of existing policies, programs, and interventions geared toward improving the situation.

Evolving school system in Nepal

In Nepal, public (formal) schools were not open to the general public until 1902. For the next five decades, access to education remained limited, and was highly controlled and regulated (Parajuli, 2012). Following this, some new initiatives were undertaken in the third quarter of the century. However, for much of this period, the focus was mainly on the expansion of basic level schools throughout the country. The schools were, however, primarily public schools, and were under state control (Parajuli, 2012). The system of schooling/college levels that commonly operated during this time period comprised 10 years of high school (which included 5 years of primary school), 4 years of college, and 2 years of a master's degree.

Broadly, there are currently three types of schools — public (commonly referred to as community schools), private (also referred to as institutional schools or boarding schools), and religious schools. As of 2015–2016, there were a total of 34,537 basic (primary, grades 1–5) level schools, and among them, 28,082 were community schools, 5,525 were institutional schools, and 930 were religious schools. Similarly, there were 8,968 secondary (grades 6–8) schools and 3,656 higher secondary (grades 9 and 10) schools. Overall, a total of 4,249,658 students were enrolled in all of the public and private schools combined (Department of Education [DoE], 2016a, b).

Some significant shifts in the education sector began to take place in the final quarter of the 20th century (Carney and Bista, 2009; Carney and Rappleye, 2011; Ministry of Education [MoE], 2009, 2016). One of the major changes in policy during this period was that primary level education was made free at public schools. Further, the school system changed to consist of four levels — primary, lower secondary, secondary and higher secondary education, spread over a total duration of 12 years (5 + 3 + 2 + 2). More recently, the government of Nepal has been implementing a School Sector Reform Program (2009-15) bringing further changes and restructuring of the system.

In view of the data being analyzed in this paper, we focus the overview on the recent 25-year period, from 1991 to 2015. The year 1991 also marked a turning point in the history of Nepal; it was when the century-old, essentially autocratic regime was replaced by a fully democratic political system (Hutt, 1994; Lawoti and Pahari, 2010; Muni, 2003; Thapa and Sijapati, 2005). As a matter of fact, as in other sectors of the economy, most of the transformative changes in the educational sector have taken place since 1991 (Carney and Bista, 2009; Carney and Rappleye, 2011). One major change that has occurred in the educational sector has been the proliferation of private schools (Thapa, 2013). Further, as noted above, the system of schooling levels also changed. Despite the modifications in the classification and expansion of the grades within the schooling system, 10th grade (corresponding to 16 years of age) still remains and is perceived to be a milestone or an "iron gate" (Davies, 2016) in the schooling system in Nepal.

Research on dropping out of school in Nepal

Acharya (2018) carried out an extensive narrative review of published and unpublished reports and papers on out-of-school youth (including both those who were eligible to attend school but never did and those who attended school but later dropped out). The author identified 16 studies focused on school dropouts (some of them also included school enrollment, dropouts, and reasons for dropping out). Based on this review, we draw the following general conclusions relevant to the scope of the present study: (i) Most of the studies related to the primary level of education (1–5 grades), and only some of the studies included up to grade 8, corresponding to approximately ages 6–12. (ii) The study populations for the overwhelming majority of the studies were purposely sampled within a district or region; and therefore, many of the study results are not representative of all districts. (iii) Most of the studies were undertaken on behalf of specific funding agencies as part of their respective project evaluation; further, none of the studies was aimed at testing any specific theories relating to school dropouts. (iv) The reasons for dropping out could be broadly clustered into five categories: school-related, household-related, socio-culture related, parental-related, and student-related. (v) Nearly all the studies have implicitly assumed access to schooling from a

"rights-based" approach, and hence, no other rationale for focusing on school dropouts (e.g., social or economic costs, health, and potential loss of lifetime income) are explored in these studies. (vi) Of the 16 studies, only a handful included nationally representative data.

One of the national-level studies was a report jointly undertaken by the Ministry of Education [MoE] and UNESCO (MoE and UNSECO, 2015). This included analysis drawn from three surveys conducted in 2011, 2012–13, and 2014. Acharya's (2018) study also included further analysis of the national-level data drawn from the 2011 National Living Standards Survey and 2011 Census. Another study by Devkota et al. (2022) examined the caste/ethnic differences in school dropouts using the Nepal Living Standards Survey (NLSS). The relevant findings based on these previous studies are highlighted in the discussion section of this paper.

Data and methods

The data for the analysis are extracted from a national cross-sectional survey, referred to as the Nepal Demographic and Health Survey (NDHS), carried out in 2016 (Ministry of Health, New ERA, and ICF International, 2017). The data were collected over a seven-month period, between June 2016 and January 2017. The survey included data collected from the head of household on all persons in the household, women of reproductive age, and a sub-sample of men. The present analysis is, however, limited to the population ages 18 to 24 in the household module of the survey. Parenthetically, we note that the population in ages 10–19 is defined as 'adolescents,' ages 15–24 as 'youth,' and ages 10–24 as 'young' (World Health Organization [WHO], 1989). We have used the same definition in this paper.

According to the estimates made by the Census Bureau of Statistics (Central Bureau of Statistics [CBS], 2014), in 2016 Nepal's young population (male and female) stood at 6.3 million, representing 22.3% of the country's total population. The 2016 NDHS (Ministry of Health, New ERA, and ICF International, 2017) reported the corresponding total percentage to be slightly lower 18.4% (15–19—10.2% and 20–24—8.2%). In making the projection, the CBS implied the standard male-to-female sex ratio as 106 (per 100). In contrast, the survey showed the actual sex ratio for this age group to be only 65 males per 100 females, implying considerable male and age-selected out-migration.

In the household module, the survey inquired as to whether each person (aged 5 years and older) in the household had ever attended a school, and if so, asked the person's current educational status, including the highest educational level completed. From the youth population (15–24), we further selected the sample of the population in current ages 18–24 having ever attended secondary school, grades 6–10 (Table 1). The data include all members of the household, irrespective of the *de facto* or *de jure* count at the time of the survey.

The survey identified a total number of 9,079 male and female youths in ages 15–24. Within this total sample population of youth, the sample for the secondary level was 2,812 cases, with more females than males (130 females per 100 males). The lower cut-off age of 18 years was used to ensure that the youths would have had enough time to complete the 10th grade of schooling. In all, the total number of cases included in the present study sample represented 31% of the total youth aged 15–24 in the survey (Table 1).

TABLE 1 Samples for the study, extracted from the Nepal Demographic and Health Survey, 2016.

Gender and age group	Sample	%
Male	1,160	41.3
Female	1,652	58.7
Total	2,812	100.0
All in ages 18–24: 6,034		
Percent of the study sample of all in ages 18–24: 46.6% (2,812/6,034)		
Percent of the study sample of all in ages 15–24: 31.0% (2,812/9,079)		

The study population is further classified into two distinct groups – completers and incompleters. The former (completers) refers to the 10th grade level completed at the time of the survey. By definition, it may include some who may have continued on to the higher grade level, 11th grade, but did not complete the grade. Similarly, the latter term – incompleters – refers to those who did not finish the 10th grade (or any grade between the 6th and 9th grades). These terms are used in the survey as well. In a broad sense, the incompleters may be synonymously thought of as dropouts or discontinuers. The proportion or percentage failing to complete the secondary level of schooling (equivalent to the 10th grade) is the main measure used in this analysis. The incompletion of secondary school, and the incompletion of the 10th grade, are used synonymously.

The variations in the incompletion of the secondary level of education are analyzed by selected contextual and individual factors. Province and ecological region of residence are considered proxies for the contextual factors. Nepal's provinces have been reconstituted under the new federal system of governance; and some of these regions represent wide variations across different measures of the social and economic development spectrum (NPC and OPHI, 2018; NPC and UNDP, 2014). Of the seven provinces, Province 3 (where the federal capital lies) comparatively ranks as the most advantaged, and by contrast Provinces 6 and 7 relatively rank as the most disadvantaged. Ecological regions are broadly represented by three belts – Mountains, Hills, and the Plains (a sub-tropical belt also referred to as the Terai, which is essentially the bread basket of the country). The urban–rural place of residence variable is excluded, since much of what is classified as the population living in an urban area is based principally on population counts and less on the areas possessing urban characteristics. This has resulted in classifying 60% of the total household population as living in an urban area as of mid-2010 (Ministry of Health, New ERA, and ICF International, 2017).

The household factor is represented by the household wealth variable, a composite measure of the cumulative living standard of a household (including asset items such as water and sanitation facilities, televisions, and the type of material used for flooring). The construction of the index is described in detail elsewhere (Rutstein and Johnson, 2004; Johnson and Bradley, 2008). The individual level variables are represented by age, gender, and marital status (single or married).

The net effects of these various covariates on the odds of not having completed the secondary levels of educational attainment are assessed by performing a binary logistic regression (Retherford and Choe, 1993). In order to avoid bias toward the over-sampled

subpopulations, sample weights were applied for all estimates (means, percentages, and regression coefficients).

Results

The distribution of the sample is shown in Table 2. Provinces 1 and 5 each have one-fifth of the total study population. This is followed by Provinces 2 and 3 (with about 16% each). Provinces 4 and 7 each have 10% of the population. Province 6 has only about 7% of the total population. The Terai ecological region has about half of the population, and the Mountain region has just over 6%.

Nearly one-fifth of the sample belonged to the poorest group, and about 10% belonged to the richest group. While 44% belonged to the poorer and poorest groups, 32% belonged to the richer and richest groups. The average age of the study population was 20.5 ± 2. The majority (63%) were married, and 37% were single. About 59% were females.

Table 3 shows the current status of completion of the secondary school education population. Of the total, 67% had not completed the 10th grade, and only 33% had completed the grade level, with some differences between the male and female sample populations.

A slightly higher percentage of males than females (36% versus 31%) had completed the 10th grade. However, the non-completing percentage was high for both the groups – 69% for females and 64% for males. In consideration of the sample size and the larger proportion of non-completers, the overall weight in the results is expected to be weighted by the female samples. Also for this reason, we present the results based on the combined total sample of both males and females, instead of undertaking a separate analysis for males and females.

The percentages of the secondary school non-completers, based on their background characteristics, are shown in Table 4. Among the seven provinces, the percentage of non-completers ranged from a low of 58% (in Province 3) to a high of 74% (in Province 5). The variations based on the ecological region were not large, between 66 and 68%. However, there were large variations based on the household wealth quintiles. The percentage not completing was 76% among the poorest and poorer groups, while it was considerably lower (52%) for the richest group, followed by the richer group (58%).

Incompletion did not vary much by age group (66–70%). However, it did vary considerably based on marital status – 57% among single youth, and rising to a high of 75% among the married youth. Females had a higher incompletion percentage than their male counterparts (69% vs. 64%).

Table 5 shows odds ratios (ORs) and 95% confidence intervals (CIs), based on bivariate and multivariate binary logistic regressions. Focusing on the bivariate results first, compared to Province 3, all other provinces except Province 2 have significantly higher odds of non-completion of the 10th grade. It is the highest (OR = 1.8) in Province 5. There are no significant differences between the three ecological regions. However, the odds of incompletion varied considerably based on household wealth; compared to the richest group, it increased from 1.6 for the fourth quintile to 3.3 for the first (poorest) quintile. Compared to the single youth, married youth are 2.2 times more likely to not complete their education. Similarly, females are at a slightly more disadvantaged position (OR = 0.84) than their male counterparts in terms of completing the level (10th grade).

TABLE 2 Among male and female ages 18–24, percent distribution not completing secondary level of schooling (10th grade), by selected characteristics, Nepal, 2016.

Characteristic	Percent distribution	*N*
Province		
Province 1	20.2	541
Province 2	16.3	472
Province 3	16.2	529
Province 4	10.0	275
Province 5	20.6	526
Province 6	6.7	191
Province 7	10.0	278
Ecological region		
Mountain	6.4	182
Hill	43.8	1,258
Terai (Plains)	49.8	1,372
Household wealth quintile		
First (poorest)	19.3	480
Second (poorer)	24.6	613
Third (middle)	24.2	638
Fourth (richer)	21.7	707
Fifth (richest)	10.2	374
Age (mean=20.5; SD=2.0)		
18–20	53.4	1,521
21–22	27.5	744
23–24	19.1	547
Marital status		
Single	37.3	1,242
Married	62.7	1,570
Gender		
Male	41.3	1,160
Female	58.7	1,652
All	100.0	2,812

Total for each variable equals 100 unless affected by rounding. As of the 2016 survey, the seven provinces were referred to by their numbers only; we have followed the same practice in the text and tables.

We performed alternative models for multivariate logistic regression. The results based on the two models are presented in the table. In model 1, the ecological region is omitted, while the province covariate is omitted in model 2. These two covariates could not be included in one model because of multicollinearity between the two.

In the multivariate results, compared to the Hill ecological region, the Terai region has significantly higher odds (1.66) of incompletion of educational attainment, and the Mountain region has lower odds ratio (0.65). Being married has higher odds (1.57). However, the effect of gender is attenuated, indicating a different effect than found in the bivariate results. Upon further exploration, it was found that this was primarily due to the effect of marital status. Once the effect of marital status is adjusted, the gender disparity attenuates. The higher effect of

TABLE 3 Status of completion or non-completion of secondary school education among male and female youth population, aged 18–24, Nepal, 2016.

	Male		Female		Both	
Completion status	%	*N*	%	*N*	%	*N*
Completed secondary (10th grade)	36.0	418	30.8	509	33.0	927
Incomplete secondary (6 < 10 grades)	64.0	742	69.2	1,143	67.0	1,885
Total	100.0	1,160	100.0	1,652	100.0	2,812

females on the odds ratio (as found in the bivariate results) was, hence, due to the differential in marital status.

Of the six covariates included in the logistic regression, household wealth has the strongest association with the non-completers of secondary school. As a matter of fact, household wealth accounted for most of the effects of the provinces. In both of the models, compared to the richest sub-group, the poorest sub-group had an incompletion of 3.82 times and 4.36 times in model 1 and model 2, respectively. Once the wealth covariate is included in the model, most of the effects of the differences across the provinces attenuated, except for Province 1 (model 1). This suggests that the differentials in household wealth across most of the regions account for the differentials in the incompletion of education.

TABLE 4 Among males and females ages 18–24, percentage not completing secondary level of schooling (6–10th grades), by background characteristics, Nepal, 2016.

Characteristic	Percentage
Province	
Province 1	70.3
Province 2	65.1
Province 3	57.7
Province 4	68.8
Province 5	73.8
Province 6	66.7
Province 7	67.7
Ecological region	
Mountain	66.3
Hill	65.6
Terai	68.4
Household wealth (quintiles)	
First (poorest)	75.8
Second (poorer)	75.6
Third (middle)	71.6
Fourth (richer)	57.7
Fifth (richest)	51.6
Age (mean=20.5, SD=2)	
18–20	66.2
21–22	69.7
23–24	65.8
Marital status	
Single	56.6
Married	75.3
Gender	
Male	64.0
Female	69.2
All	67.0

The bivariate relationship for each variable shown in the table is significant at <0.05 based on the χ^2 test. The number of cases for each category of each variable is the same as shown in Table 2.

Discussion

Besides being a representation of a particular geographic area, the provinces in Nepal also encompass a mosaic of different economic strengths, ethnic and cultural diversity, variations in transportation and related infrastructure, and social development. Some of the provinces vary distinctly along the 'multidimensional poverty index'. For example, Province 3 followed by Province 4 fall at the higher end of the index, while Province 6 and Province 7 stand at the most impoverished end of the spectrum (NPC and OPHI, 2018; NPC and UNDP, 2014). Similar patterns were found when we ranked the provinces by the concentration of household wealth in the 2016 NDHS dataset. The percentage of non-completers of secondary school varied considerably by province, as shown in the bivariate results. These are expectedly the differences associated with the status of the economy of each province. The differences in non-completion may also reflect the density of schools, the mix of public and private sector schools, convenience, the ratio of teachers to students, the overall quality of teaching, and the types of communities and students who attend the schools. A study in India reported similar school-related reasons for dropping out of school (Kumar et al., 2023).

However, the differences across the seven provinces largely attenuated once the joint effects of the household wealth variable were considered in the analysis. This suggests that the province-level differences in non-completion are actually due largely to the differences in household wealth across the provinces. That is, regardless of a particular province, household wealth is the factor that primarily determines the level of non-completion of educational attainment. A richer household may be able to access or afford additional helpers for the household, and perhaps more importantly, may hold more egalitarian and liberal attitudes toward educational attainment, particularly female educational attainment. Further, such households may hold private schools ('boarding' schools) in higher esteem, and may possess different values in terms of having their sons and daughters complete their educational attainment. In his narrative review of several studies conducted from 1993 to 2014 (including both ethnographic studies and surveys), Acharya (2018) found

TABLE 5 Bivariate and multivariate binary logistic regression models assessing the odds of non-completion of secondary level of education among youths ages 18–24 years, by selected covariates, Nepal, 2016.

Covariate	Bivariate		Multivariate Model 1		Multivariate Model 2	
(Characteristic)	OR	95% CI	OR	95% CI	OR	95% CI
Province					ni	
Province 1	1.49**	1.11–2.00	0.62**	0.45–0.85		
Province 2	1.29	0.95–1.73	1.01	0.74–1.37		
Province 3	1.00	-	1.00	-		
Province 4	1.48**	1.08–2.02	1.50**	1.10–2.05		
Province 5	1.82**	1.36–2.44	1.02	0.75–1.39		
Province 6	1.36*	1.02–1.82	1.00	0.72–1.37		
Province 7	1.46**	1.09–1.95	0.78	0.57–1.09		
Ecological region			ni			
Mountain	0.82	0.61–1.10			0.65**	0.47–0.89
Hill	1.00	-			1.00	–
Terai	1.14	0.97–1.34			1.66**	1.38–1.99
Household wealth (quintiles)						
First (poorest)	3.30**	2.49–4.38	3.82**	2.81–5.20	4.36**	3.20–5.95
Second (poorer)	3.23**	2.45–4.26	3.30**	2.47–4.40	3.51**	2.63–4.69
Third (middle)	2.60**	1.98–3.41	2.57**	1.94–3.41	2.47**	1.86–3.26
Fourth (richer)	1.59**	1.22–2.08	1.56**	1.18–2.05	1.50**	1.14–1.97
Fifth (richest)	1.00	–	1.00	–	1.00	–
Age						
18–20	1.00	–	1.00	–	1.00	–
21–22	1.26*	1.04–1.51	1.00	0.82–1.22	1.02	0.83–1.24
23–24	1.02	0.83–1.25	0.74**	0.59–0.93	0.78*	0.62–0.97
Marital status						
Single	1.00	–	1.00	–	1.00	–
Married	2.21**	1.89–2.59	1.59**	1.45–1.75	1.57**	1.43–1.72
Gender						
Male	1.00	–	1.00	–	1.00	–
Female	1.18*	1.01–1.38	0.84*	0.70–1.00	0.87	0.73–1.04
Constant			0.78	0.52–1.19	0.57**	0.39–0.83
N	2,975		2,975		2,975	
LR χ^2			246.33		253.69	
2 Log likelihood			−1752.9		−1749.2	

*$p \leq 0.05$, **$p \leq 0.01$; ni, not included.

poverty was cited as the main reason for households not being able to send their children to school, or causing students themselves to find it difficult to attend school. The present results reaffirm the importance of household wealth in determining the completion or non-completion of secondary school education. Studies based in India in similar contexts also found that household wealth is an important factor in determining school dropouts (Garg et al., 2024; Kumar et al., 2023; Paul et al., 2021).

One important factor that influenced male students in particular to leave school before completing their secondary level of education may be related to opportunities for employment abroad, principally in the countries of the Middle East (Ministry of Labor and Employment [MoLE], 2014; World Bank, 2011). This may largely explain the large deficit of males in the youth age group. Additionally, there are typically thousands of young people who go to India (being an open border) for general seasonal or even longer-term employment (Ministry of Labor and Employment [MoLE], 2014). There are many districts both in the Hill and the Terai regions that are known to have a higher rate of youths leaving for employment outside Nepal (World Bank, 2011). A study in India conducted in similar contexts also found that engagement in paid work leads to leaving schools at an early age among male youths in order to support their families financially (Kumar et al., 2023).

Acharya (2018) found another related reason for leaving school before completing the 10th grade is what may be termed

a community-defined norm regarding a desirable higher level of educational attainment. In certain communities where there is a higher propensity to enlist in the army either in Nepal or neighboring India, Acharya found that the community members regarded the completion of 7th grade as 'adequate' for employment and work, and most thought that a higher level of educational attainment was not really necessary to be gainfully employed. Yet in some other communities, even when parents thought that some level of education was important, they did not appear to attach much importance to completing a particular grade level, especially the 10th grade (Acharya, 2018).

In recent decades, significant policy changes and other efforts geared toward eliminating the practice of early marriage that has long existed in Nepal have been undertaken (Bajracharya and Bhandari, 2014). Following the 2015 constitution, the legal minimum age for marriage is 20 for both males and females, with or without parental consent (Ministry of Law, Justice, and Parliamentary Affairs [MLJPA], 2017). This is expected to eliminate child marriage to a considerable extent, and consequently raise the minimum age at marriage in the future. The data from the 2016 NDHS showed that, of all women of reproductive age, 27% were reported married in the age group 15–19, and the number increased to 75% by age 24. This suggests that if the new legal age for marriage is fully enforced, the percentage of youth not completing the 10th grade on account of marriage could be expected to be reduced considerably.

However, as of the mid-2010s, a positive relationship between marriage and incompletion of secondary schooling was found. Because of the cross-national nature of the survey data, it is not possible to tease out the cause-and-effect relationship. That is, for some adolescents and youths, it is possible that dropping out of school hastened marriage, while for others marriage could have actually acted as a disruptive factor. Thus, with the marriage-related intervention having less role in the completion of education, other factors are most likely to play a role in determining the completion of education. In a recent review of interventions that have worked effectively to prevent early female marriage (18 years or under), Malhotra and Elnakib (2021) concluded, "enhancement of girls' own human capital and opportunities is the most compelling pathway to delaying marriage." The same concept may well also work toward encouraging girls to delay marriage until after the age of 18.

In the post-1991 decades in Nepal, new policies and regulations have been promulgated toward eliminating the influence of much of the patrilocal and patriarchal norms and practices that favor males over females (National Women Commission [NWC], 2020). At least in terms of access to schooling, significant progress has been made toward closing the chasm between male and female students (Thapa, 2020). However, despite having more access to school enrollment, the results presented in the paper show that the gender gap continues to remain with respect to the completion of the secondary level of schooling. This gap exists despite differences due to marriage, household wealth, and other factors. Socially and culturally, even though a family or a community may see the value of girls attending school or having at least some education, there may not be as much emphasis placed on completing the secondary level of education. The study results reinforce the importance of continued emphasis on addressing this aspect of discrimination.

Limitation

The reasons for not completing school were not ascertained in the survey. However, they could be related to the school environment, community norms and practices, household economic status, and/or individual factors. In a survey in India, the reasons were ascertained for those respondents under 19 years of age who had not attended the academic year immediately preceding the survey. The most commonly cited reasons for not attending school, for either primary or secondary levels of education were: 'not interested in studies' followed by 'school costs too much' and 'required for household work' (Paul and Thapa, 2024). However, the actual reasons for not attending education may be better understood by undertaking in-depth studies (with qualitative methodologies). For instance, a lack of interest in studies could stem from poor quality of education, inadequate school infrastructure, or various family-related challenges. With respect to the school-related factors in Nepal, a 2015 Ministry of Education study reported the poor quality of school infrastructure along with the lack of adequate classroom space and learning resources as being some of the barriers to attending school (Ministry of Education [MoE], 2015; Ministry of Education [MoE and UNESCO], 2015). A 2011 national survey found that the distance to and from school, poor academic progress, and the need to provide a helping hand in the family were some of the main school- and family/personal-related reasons for discontinuing schooling (Central Bureau of Statistics [CBS], 2011). An individual's motivation or lack thereof for completing their studies remains the least known factor in the data analyzed here. At the household level, parental education is also recognized as a factor in determining children's schooling. This variable was not included, although a large part of its effect is most likely mediated through the household wealth variable in the present analysis.

The school-related factors may include both quantity and quality of teachers, learning environment, bullying and harassment, infrastructure of the school (lack of space), availability or lack of toilet facilities (especially for girls), and security issues (Bhagavatheeswaran et al., 2016; Prakash et al., 2017; PROBE, 1999). These are known to be important factors influencing the overall performance of a school, and the research on the motivation of students to complete schooling in neighboring India, along with Nepal, would be worthwhile to consider.

Nepal's population is known to be a mosaic of caste, ethnicity, and tribe (Bennett et al., 2008; Gurung, 1998; Bhattachan et al., 2005). Furthermore, ethnic groups are intertwined with religion and geographic regions in the country. The data analyzed did not include information on the ethnicity of the population (the information on ethnicity was collected only in individual men's and women's questionnaire modules, not in the household module). Previous analyses on access to schooling (Thapa, 2020) have found that compared to the traditionally most advantaged ethnic group, the traditionally disadvantaged indigenous and other minority groups, in particular, face higher levels of disparities in access to and attainment of schooling, net of other background factors. This implies that the inclusion of this particular variable in the multivariate analysis could probably have attenuated the size effects (odds ratios) of some of the other variables to some extent, but did not diminish the influence of the other factors. At the same time, the influence of the ethnic and indigenous minorities remains significant. The influence of ethnicity is manifested in the reasons for not completing schooling in a number of ways, including students not being able to understand the language or instruction (which is also universally in the standard Nepali language), or not being able to assimilate with people from different ethnic groups (Acharya, 2018).

In the post-1991 period, as with other segments of the economy, the private sector in education proliferated in Nepal (Thapa, 2013, 2015).

Arguably, the issue is not whether the private sector is needed, but instead how best to harness its role to develop the most productive public-private combination. Due to the limitation of the data, it was not feasible to assess the differential effect of the public and private sectors on the non-completion of secondary school education. While the present analysis focused on the 10th grade as a threshold for assessing non-completers, future research could examine different levels of educational attainment as a threshold, depending on the needs and relevance.

Notwithstanding these limitations, this paper has identified disparities for further research toward better understanding the issues at the provincial, district, and community levels. The results provide a higher-level context to further explore toward improving the situation.

Conclusion

Incompletion of the secondary level (10th grade) of schooling is high and remains a major problem in Nepal. Among the nearly 47% of the population representing the youth age group of 18–24, the majority did not complete the secondary level of education (64% among males and 69% among females). Among the other variables considered in this analysis, household wealth had a consistent and strong effect on the non-completion of studies. Among the country's provinces, much of the variation in the non-completion of the 10th grade was accounted for by the household wealth variable. Additionally, being married was associated with a higher likelihood of incompletion, net of the influence of other factors.

After several years of effort, the level of attendance, and the gender disparity in access to schooling in particular, have improved considerably in Nepal in recent years. The data analysis presented here suggests that the next level of the challenge is emphasizing the importance of the completion of the secondary level of education. A sustained national campaign is warranted to highlight the issue, and to help to ensure that those who begin their schooling do not leave before reaching the finish line. This should be a high priority on the agenda for improving human capital in Nepal.

Data availability statement

Publicly available datasets were analyzed in this study. The dataset can be accessed by registering and submitting a request to the Demographic and Health Survey (DHS) Program.

Ethics statement

The present study represents a secondary analysis of the Nepal Demographic and Health Survey 2016. As part of the global survey program funded by the US Agency for International Development, the survey adapted the ethical clearance as required in the US and Nepal. The details are provided in the main survey report cited in the references. The dataset can be accessed by registering and submitting a request to the Demographic and Health Survey (DHS) Program. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required from the participants or the participants' legal guardians/next of kin in accordance with the national legislation and institutional requirements.

Author contributions

ST: Conceptualization, Formal analysis, Methodology, Writing – original draft. PP: Data curation, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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