



Child labour and schooling in Tanzania

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Abstract

In this paper, I examine child labour and schooling in Tanzania. I use Tanzania Labour Force Survey data containing detailed information on children aged 5–17. I find that girls are more likely to do household chores and spend more hours on household chores than boys. On the other hand, boys are more likely to do activities for pay, profit or home use and spend more hours on economic activities than girls. I also find a positive and statistically significant relationship between the number of children below 5 years (preschoolers) and the time children aged 5–17 years spend on household chores, suggesting that the latter may be spending more time caring for the former. Furthermore, I find a negative and statistically significant relationship between asset ownership and child labour. Concerning child labour and the educational performance of the children, I find that children who were engaged in household duties or economic activities, children who did any activities for pay, profit or home use and those who spent more hours on household chores are more likely to perceive that they get poor grades at school because of work. Regarding potential pathways, time spent by the children on economic activities, household chores and working in any activities for pay, profit or home use are found to affect the children's regular school attendance or studies.

Keywords Child labour · Child schooling · Tanzania

Introduction

Investment in children's education is crucial for a country's economic growth and development (Schultz 1961; Becker 1962; Lucas 1988; Mankiw et al. 1992; Jensen 2000). Moreover, investment in human capital development is essential for improving human welfare because it reduces poverty and breaks its vicious cycle (Jensen 2000; Ferreira & Schady 2009). In addition, studies have shown that returns to education are significant (see, inter alia, Psacharopoulos 1994; Card 2001; Psacharopoulos & Patrinos 2018; Asravor 2021; Montenegro & Patrinos 2022) and may outweigh returns from other physical assets (Psacharopoulos 1994). Despite these benefits and many others, the level of education and

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educational attainment remain remarkably low in most developing countries. Child labour¹ is considered one of the impediments to children's schooling.

In this paper, I examine the correlates of child labour in Tanzania. I also examine the relationship between child labour and children's educational performance. Subsequently, I explore the potential pathways through which child labour may affect children's academic performance. I use the Tanzania labour force survey data collected in 2020/2021. Unlike many household surveys, the questionnaire has an entire module with an array of information on the work status of children aged 5–17. The module captures information on economic and non-economic activities a child performs. It also contains information on hours spent on economic activities and household chores.

The findings reveal that girls spend fewer hours on economic activities than boys and are less likely to do activities for pay, profit or home use. On the other hand, the findings show that girls are more likely to perform household duties or economic activities and spend more hours on household chores than boys. I also find that older children are more likely to do household duties or economic activities than younger ones. Similarly, older children are more likely to do activities for pay, profit or home use than the younger ones. I also found a positive and statistically significant relationship between the number of children below 5 years—hereafter preschoolers and the time children aged 5–17 years spent on household chores per week. This suggests that the latter may be spending more time caring for the former. As expected, I found a negative and statistically significant relationship between asset ownership and child labour. This suggests that wealthier households may hire outside labourers instead of relying on children to supply labour because they can afford to pay them. Furthermore, compared to children in households whose head's main employment sector is formal, children in households whose heads' main employment sector is agriculture, spend more hours on economic activities and are more likely to do activities for pay, profit or home use.

Regarding child labour and schooling, I find a negative relationship between child labour and a child's performance in school. Children who participated in household duties or economic activities are more likely to perceive that they got poor grades in school because of work, by around 9 percentage points higher than their counterparts. Similarly, children who did any activities for pay, profit or home use during the 12 months preceding the survey are more likely to perceive that they got poor grades in school because of work, by around 4 percentage points higher than those who did not do such activities. I also note that the more time a child spends on household chores, the higher the probability of perceiving that s/he got poor grades in school because of work. Concerning potential pathways of the above results, hours spent on economic activities during the week preceding the survey, time spent on household chores and participation in any activities for pay, profit or home use are found to affect regular school attendance or studies.

Globally, as of 2020, there were 160 million children aged 5–17 in child labour, and 35% of these were denied education because they were in child labour (ILO & United Nations Children's Fund [UNICEF], 2021). Moreover, usually, even those who attend school by combining child labour and schooling are penalised academically for their involvement in child labour. Although child labour is a global problem, African children

¹ Child labour is any work that deprives children of their childhood, their potential and dignity, and that is harmful to physical and mental development (International Labour Organisation [ILO] et al., 2019). It is defined by the ILO Minimum Age Convention, 1973 (No. 138), the Worst Forms of Child Labour Convention, 1999 (No. 182), and the United Nations Convention on the Rights of the Child (ILO, OECD 2019). In this paper, the definition is broader than the conventional one because it includes household chores.

are at disproportionate risk. For example, in 2016 and 2020, of the 152 and 160 million children in child labour globally, 47% and 54%, respectively, were in sub-Saharan Africa (SSA) (ILO 2017; ILO & UNICEF 2021). Moreover, although the world, through its Sustainable Development Goals, is determined to end child labour in all its forms by 2025, this remains a challenging task in SSA. While other regions have recorded a declining trend in child labour in recent years, SSA has witnessed the opposite trend (ILO 2017; ILO & UNICEF 2021). In Tanzania, like in other SSA countries, the problem of child labour is still rampant.² Evidence indicates that 4.2 million Tanzanian children aged 5–17 years (about 29% of this age group) are stuck in child labour (ILO 2018).³ Besides, anecdotal evidence shows that child labour, especially of an exploitative and hazardous nature, is prevalent in the country. In addition, despite various efforts by the government to increase access to education, the national dropout rate is still relatively high, and gross and net completion rates are not very impressive (Mugizi 2022a).⁴ Moreover, the number of pupils living in vulnerable environments remains high (URT, 2018).⁵ Child labour could be one of the reasons for the problems above.

Against this backdrop, the paper unfolds as follows. The section titled “Literature review” gives a review of relevant literature. Section 3 presents a brief “Conceptual framework”. The section entitled “The context” briefly sheds light on the context—child labour policies and schooling in Tanzania. The section on “Data, key indicators and descriptive statistics” describes the data and descriptive statistics. The section entitled “Estimation strategy” discusses the estimation strategy. The section on “Estimation results” presents and discusses the empirical results. The final section entitled “Conclusion and policy implications” concludes and sheds light on possible policy measures.

Literature review

The issue of child labour is motivated by its detrimental impact on the child’s schooling development (Haile & Haile 2012). As such, some studies have examined the determinants and consequences of child labour—with special attention on the nexus between child labour and schooling. I begin by briefly reviewing relevant literature on the determinants of child labour and then delve into related literature on the child labour and schooling nexus. Regarding what drives child labour, studies often cite poverty as the main driver (Basu 1999; Edmonds & Pavcnick, 2005; Edmonds 2005, 2006; Dayioglu 2006; Ray 2007). For example, in his study on Vietnam, Edmonds (2005) found that child labour decreased with economic growth. In South Africa, child labour increased with liquidity constraints (Edmonds 2006). Similarly, efforts to reduce poverty in Ecuador through cash transfer decreased child labour (Edmonds & Schady 2012). In Ghana, child labour hours increase

² Notwithstanding, since independence in 1961, the country has put in place several policies to promote the welfare, enhance education opportunities and protect the rights of children (e.g. see [National Child Labour Survey: Tanzania national child labour survey 2014: Analytical Report \(ilo.org\)](#)).

³ These numbers exclude the worst forms of child labour such as child trafficking, commercial sexual exploitation and child slavery because information on children involved in these worst forms of child labour is limited.

⁴ In 2018, national dropout was at 0.7% of the total enrolment and only about 28.4% of 13-year-old children reached Standard VII (United Republic of Tanzania [URT], 2018).

⁵ In 2018, the total number of pupils living in vulnerable environment was 124,057, equivalent to 8.7% of total enrolment (URT, 2018).

with poverty, lack of access to school or poor quality of school (Ray 2007). Other documented drivers of child labour include labour market imperfections. For example, in rural Burkina Faso, labour market imperfections are the common reason for using child labour (Dumas 2007). In Pakistan and Ghana, the more land parents own, the more likely it is for children to work (Bhalota & Heady 2003). This is also true in India (Basu et al. 2010).

Concerning the link between child labour and schooling, empirical studies have documented the deleterious effects of child labour on various measures of schooling. Many of these studies have focused on child labour, defined as child market or work outside the home. For example, Sim et al. (2017) examine the effect of child market work on the long-term growth of human capital in Indonesia, focusing on mathematics skills, cognitive skills and educational attainment. They find that child labour negatively affects mathematics skills but not cognitive skills and educational attainment. In Ghana, Headey (2003) analyses the effect of child labour measured by the labour market and work for household farms and enterprises on learning achievement by using measures of skills learned in reading and mathematics. He finds that work outside the household significantly negatively affects learning achievement. Boozer and Suri (2001) exploit regional variation in the rainfall pattern as a source of exogenous variation in child labour and find that child labour decreases contemporaneous schooling in Ghana. In Brazil, Emerson et al. (2017) examine whether working outside of the home while in school affects learning in Sao Paulo, Brazil and find that working while attending school has a detrimental effect on children's proficiency test scores—in mathematics and Portuguese. Likewise, Gunnarsson et al.'s (2006) study of nine Latin American countries found that work outside the home lowers test scores in mathematics and language examinations. Similarly, Rosati and Rossi (2003) show that in Nicaragua and Pakistan, more hours of child labour are associated with poor test scores. In Vietnam, Beegle et al. (2009) examined the status of young adults five years after they were observed working for wages outside the household and attending school. It was found that a one standard deviation increase in hours worked for children attending school was associated with a 35% decrease in educational attainment 5 years later.

Besides the child market or work outside the home, a few studies have captured economic activities and household chores. For example, using a household survey from rural Ethiopia, Adamassie (2003) assessed the implications of children's involvement in childcare, farm work and other household chores on schooling and found suggestive evidence that combining work with schooling may hamper school attendance. Similarly, Bezerra et al. (2009) find that child labour causes a loss in students' school achievement in Brazil. Specifically, they find that students who only work outside the house are worse off than those who only work within the house. In addition, students who work inside and outside the house have the lowest test scores. Putnick and Bornstein (2015) explore relations between children's work outside the home, family work and household chores with school enrolment in 30 low- and middle-income countries and find a statistically significant negative relationship between each form of child labour and school enrolment. In rural Bangladesh, Khanam and Ross (2011) examine the linkages between child work, including household and agricultural work, school attendance and school attainment of children aged 5–17 years and find that school attendance and grade enrolment are lower for working children. Zabaleta (2011) assesses the consequences of child labour on schooling outcomes over time by employing a three-year longitudinal household data set from Nicaragua and finds that the time a child devotes to work has harmful effects on subsequent educational achievements. In addition, she finds that the time spent in market production negatively affects school outcomes more than the time spent performing household chores. In rural Ethiopia, Haile and Haile (2012) examine participation in activities such as farming, fetching firewood and water, caretaking,

herding, with other domestic chores, and schooling for children aged 7–15 years and find that child labour reduces children’s educational attainment.

The only existing empirical study on Tanzania is by Akabayashi and Psacharopoulos (1999), who find a negative relationship between hours of work—(average hours per day of work on the farm, looking after children, other household tasks or work for pay during a regular school week) and reading and mathematical skills. However, Akabayashi and Psacharopoulos’s (1999) study was done in one region of Tanzania. This paper adds to the nascent literature on child labour and schooling in Tanzania and draws its sample from all 31 regions of Tanzania. In addition, many extant studies focus on “outside” works or economic activities and ignore “inside” works. In Tanzania, like in other SSA countries, children, especially girls, allocate as much time to household chores as they do to “outside” work. Although household chores may not be as bad for the children as “outside” labour, intensive involvement in chores may deter children’s schooling. Therefore, the neglect of household chores in many of the existing studies ignores an important gender dimension to the educational performance of children. This study’s unique data set makes it possible to analyse not only child labour in terms of economic activities but also the paper pays special attention to household chores. Moreover, different types of child activities, such as household chores and economic activities, may affect child schooling differently. The analysis of this paper sheds light on this. In addition, many existing studies on child labour and schooling in SSA have mainly concentrated on rural settings, and most were done almost two decades ago. Since child labour is still a problem in the region (54% of children in child labour are in SSA—(ILO & UNICEF 2021), using more recent data may help in policy making. Thus, this study provides new evidence on child labour and schooling using a more recent nationally representative data set. Moreover, except for Emerson et al. (2017), none of the existing studies empirically explores the potential mechanisms through which child labour may affect schooling. This paper’s unique data set allows for exploring the potential channels through which child labour may interact with the learning process. Lastly, the impact of child labour on schooling may not be the same across different age groups. Unlike many existing studies, this paper sheds some light by doing separate analyses for children between 5 to 14 years and 15 to 17 years, along with clubbing both groups together.

Conceptual framework

This section develops a brief conceptual framework (summarised in Fig. 1) that shapes our hypotheses. Conceptually, child labour can negatively affect children’s schooling and school outcomes. The time a child devotes to work on economic activities or household chores is likely to interfere with classroom time and reduce the child’s time outside the classroom for independent study, hence reducing the child’s ability to derive educational benefits fully. There are many potential pathways through which child labour may affect schooling. However, in the context of this paper, the main potential mechanism through which child labour may affect schooling is by affecting their regular school attendance or studies. This may take different forms, ranging from missing school days, interference with classroom time, disrupting or reducing time for independent studies at home to reducing the time available for resting (Rosati & Rossi, 2003) and increasing fatigue. All these may reduce learning productivity and increase the likelihood of getting poor grades in school. That is why children in child labour tend to perform poorly in terms of learning

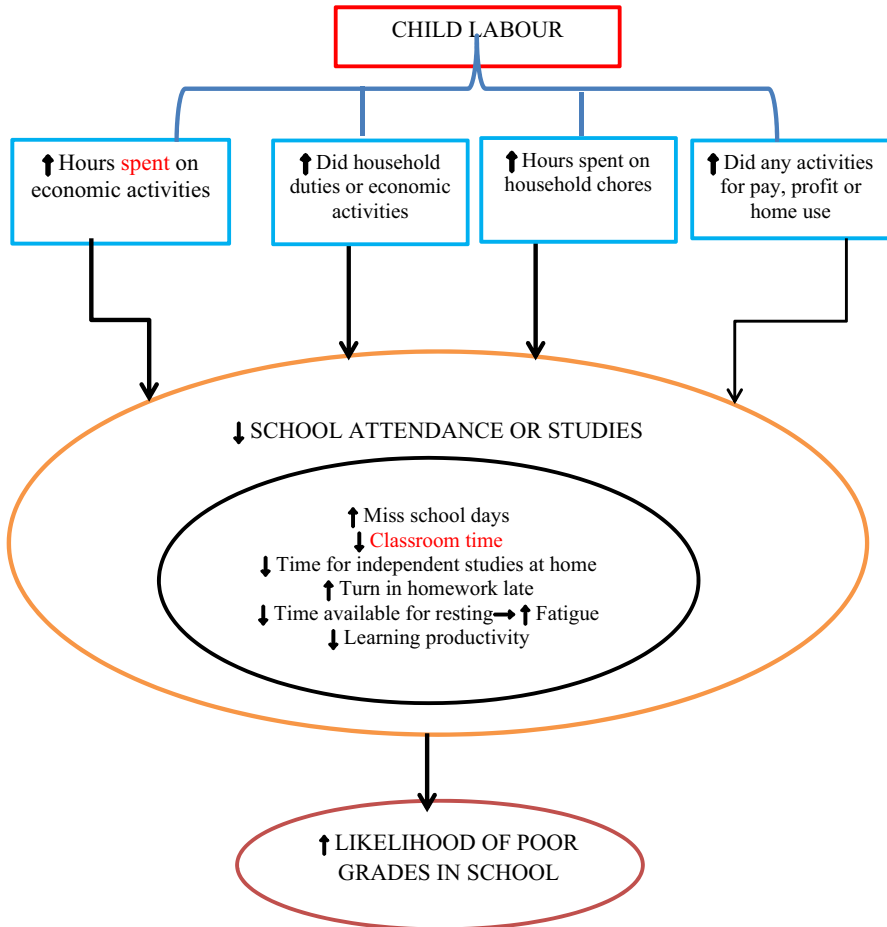


Fig. 1 Conceptual model linking child labour and schooling

achievement and may fail to advance in school (Boozer & Suri 2001; Heady 2003; Rosati & Rossi, 2003; Gunnarsson et al. 2006; Beegle et al. 2009; Bezerra et al. 2009; Khanam & Ross 2011; Zabaleta 2011; Haile & Haile 2012; Putnick & Bornstein 2015; Sim et al. 2017; Emerson et al. 2017). Therefore, due to its potential negative impact on child schooling and development, child labour can have detrimental effects on decent work and sustainable livelihood prospects later in the life cycle.⁶

⁶ However, there is a possibility that children in child labour may be learning valuable skills, accumulating experiences, bringing in resources, establishing independence, supporting their family, paying for their schooling, developing a sense of effectiveness and enhancing their self-confidence (Heady 2003).

The context

Child labour policies in Tanzania

Laws in Tanzania provide many interpretations of a child. The Child Development Policy 1996 defines a child as someone below eighteen (URT, 1996). This definition is in accordance with the United Nations Convention on the Rights of the Child and the National Constitution; it is used to protect the rights and interests of the child, particularly regarding employment, marriage contracts, protection against abuse, punishment and care by parents or guardians. On the other hand, the Employment Act talks of employing children at the age of 15. Therefore, in that Act, a child is defined as a person under the age of 14 years, provided that for employment in hazardous sectors, a child means a person under the age of 18 years (URT, 2004). Although laws in Tanzania prohibit child labour,⁷ it is still prevalent (URT, 2008; ILO 2018).

A glance at child schooling context in Tanzania

In Tanzania, formal schooling is currently structured as 2+7+4+2+3+. The preprimary school takes 2 years, primary school takes 7 years, lower secondary takes 4 years, advanced secondary takes 2 years, and tertiary education takes at least 3 years. The official age at entry to primary school is 7 years.⁸ Primary school and lower secondary education are compulsory (URT, 2014). Primary school education ends with the standard seven national examinations, while lower secondary education begins with Form 1 and ends with the Form 4 national examinations. A candidate must pass the standard seven national examinations to be eligible for selection and enrolment in Form 1.⁹

In Tanzania, education is provided in a hybrid form—children can enrol in public or private schools. However, many children attend public schools—93%, 96% and 88% of preprimary school children, primary and secondary school pupils, respectively, are in public schools (URT, 2020). In terms of the length of a school day, unlike in some developing countries where school days consist of only 3–4 hours of class time to allow double shifts (e.g. Ravallion & Wodon 2000; Wolff & Maliki 2008),¹⁰ in Tanzania school days consist of a minimum of 8 hours of class time and occurs from 7.40 am to 3.40 pm.¹¹

⁷ Article 5. -(1) of the Tanzania Employment and Labour Relations Act, 2004 states that no person shall employ a child under the age of fourteen years (URT, 2004). Article 5.-(2) reads as follows: “A child of fourteen years of age may only be employed to do light work, which is not likely to be harmful to the child’s health and development; and does not prejudice the child’s attendance at school, participation in vocational orientation or training programmes approved by the competent authority or the child’s capacity to benefit from the instruction received” (URT, 2004).

⁸ Since primary education begins at the age of 7, the age group (5 to 17 years) of children this paper examines, are supposed to be in preprimary education, primary education or lower secondary education.

⁹ See Mugizi (2022a) for details on other levels of education.

¹⁰ Under such contexts, it might be possible for children to attend school and work before or after class.

¹¹ Some schools, especially private schools, extend beyond this time.

Data, key indicators and descriptive statistics

Data

I use secondary data from the Tanzania Integrated Labour Force Survey (ILFS) of 2020/2021. The 2020/2021 ILFS were conducted in Tanzania by the National Bureau of Statistics from July 2020 to June 2021. The main objective of the 2020/2021 ILFS was to collect labour market information and other socio-economic data. The survey questionnaire contains detailed household information such as household demographic characteristics, asset ownership and access to social facilities, including primary and secondary schools. One of the four modules in the ILFS dataset focuses on children aged 5–17 years. This module has detailed information on the work status of children aged 5–17. It captures information on economic and non-economic activities performed by children, their time use, school attendance, hours spent on household chores and health and safety aspects. The main objective of the module was to provide information for the compilation of statistics on the work status of the children in terms of child work and child labour.

The 2020/2021 ILFS used the sampling frame derived from the 2012 Population and Housing Census. The 2020/2021 ILFS sampling design was based on a stratified three-stage sample design. The first stage involved the selection of Enumeration Areas (EAs) within each stratum, whereby 655 EAs were selected. The second stage involved a systematic sampling procedure for selecting households from each selected EA. A total of 24 households were selected from each sampled EA, equating to 15,720 households covering 74,558 individuals. The analytical sample data for this study comprise only 10,617 households with children aged 5–17 years. This exclusion leaves us with a sample of 25,693 children for the analysis.

Measurement of key indicators

Child labour

In this paper, I measure child labour with four proxies.¹² The first measure is the total hours a child spent on economic activities during the week preceding the survey. The second measure is whether a child did household duties or economic activities during the week preceding the survey. This comes from the following survey question: *Did this child work for household duties or economic activities during the last week?* The third measure is a dummy variable equal to one if the child did any activities for pay, profit or home use during the 12 months preceding the survey. This variable comes from the following question: *During the last 12 months, did you do any activities for pay, profit or home use?*¹³ The fourth measure is the total hours spent per week by a child on household chores.¹³ This variable is created from the following survey question: *How many hours have you been*

¹² Traditionally child labour is defined based on economic activities.

¹³ These chores performed by a child during the week preceding the survey include shopping, repairing equipment, cooking, cleaning utensils/house washing clothes for the household taking care of the pre-schoolers, old or sick-and other household tasks.

working per week on household chores?. The last is the household chores index.¹⁴ While the extant literature has paid little attention to household chores, excessive household chores may have detrimental effects on child schooling.

Educational performance of a child

The second variable worth discussing is an indicator of a child's educational performance. In this paper, I use an indicator of how a child perceives getting poor grades in school due to work. This variable is created from the following survey question: *What problems do you perceive to affect you due to work?* It takes the value of one if one of the responses is poor grades in school and zero otherwise. Although this variable is constructed based on the child's perceptions and may not necessarily correspond precisely to grades that a child gets in school, in the absence of actual grades, examining this self-reported measure of a child's performance in school may shed some light. Notwithstanding, one concern regarding this perceived poor grade variable is that children may use work as a pretext for their poor educational performance. Indeed, if this concern is genuine, the perceptions reported by children may not reflect the reality on the ground. Unfortunately, given our data, it is difficult to know whether the perceptions of poor grades reflect reality. Therefore, the results of this variable should be interpreted with caution.

Descriptive statistics

Table 1 reports the summary statistics. On average, the household head's age is 48.5 years. Regarding family headship, females head 25% of the households. The proportion of households whose heads completed at least primary school is 67%, while the average year of schooling of household heads is 6.7 years. On average, each household has 7 members, including one child below 5 years of age. Regarding the area of residence, 60% of the analytical households reside in rural areas. Concerning access to school, the proportion of households to whom the primary school can be reached by walking within 30 minutes is 78%; secondary school can be reached by walking within 30 minutes from the household for only 55% of the households.

Concerning child characteristics, the average age of children (5–17 years) is 10.6 years, and 50% of our sample children are females. Regarding schooling, 85% are currently attending school, 3% have completed, 3% dropped out, and 9% never attended school. Of those attending school or training institutions and at the same time working, 6% reported that work affected their regular school attendance or studies. Regarding activities performed by children, 72% participated in household duties or economic activities during the week before the survey, while 19% reported that they did engage in activities for pay, profit or home use during the 12 months preceding the survey. On average, children start working for the first time in economic or non-economic activities at age 6.8. In addition, on average, children spend 5.8 hours per week on household chores. Regarding household chores performed, 69% of children reported having done shopping for the household, and 9% reported repairing household equipment during the week preceding the survey. On the

¹⁴ This index is created by using principal component analysis (PCA) technique. This technique extracts a linear combination of all the household chores performed by a child. The PCA best describes and transforms them into one index (Mugizi & Matsumoto 2020; 2021; Mugizi 2022b). It then determines weights intrinsically and assigns them to each indicator by its relative importance. The first principal component which captures the greatest variation among the set of variables is used as the index.

Table 1 Summary statistics

	Obs	Mean	Std. Dev
<i>Household-level characteristics</i>			
Household head's age	25,693	48.47	12.70
1 if female-headed household	25,693	0.25	0.43
<i>Household head's education level</i>			
Never attended	25,693	0.18	0.29
Primary education	25,693	0.58	0.49
Secondary education	25,693	0.18	0.38
Vocational training	25,693	0.02	0.14
Tertiary non-university	25,693	0.02	0.13
University	25,693	0.03	0.16
<i>Household head's main sector of employment</i>			
Formal sector	25,693	0.18	0.32
Informal sector	25,693	0.38	0.48
Agricultural sector	25,693	0.44	0.50
<i>Household size</i>			
Household size	25,693	6.99	3.14
Number of preschoolers	25,693	1.05	1.08
1 if resides in a rural area	25,693	0.60	0.49
Primary school within 30 minutes walking from household (= 1)	25,693	0.78	0.41
Secondary school within 30 minutes walking from household (= 1)	25,693	0.55	0.50
<i>Child-level variables (5–17 years)</i>			
Age	25,693	10.62	3.72
1 if girl	25,693	0.50	0.50
1 if attending school	25,693	0.85	0.35
1 if completed school	25,693	0.03	0.17
1 if drop out of school	25,693	0.03	0.16
1 if never attended school	25,693	0.09	0.29
Total hours spent on economic activities during the week preceding the survey	25,693	2.97	10.22
1 if did activities for pay, profit or home use during the 12 months preceding the survey	23,409	0.19	0.39
1 if did household duties or economic activities during the week preceding the survey	23,409	0.72	0.45
Total hours spent performing household chores per week	23,409	5.79	8.81
<i>Household chores performed by the child during the week preceding the survey</i>			
1 if did shopping for the household	23,409	0.69	0.46
1 if repaired household equipment	23,409	0.09	0.28
1 if cooked for the household	23,409	0.36	0.48
1 if cleaned for the household	23,409	0.59	0.49
1 if washed clothes for the household	23,409	0.60	0.49
1 if cared for the preschoolers, old or sick	23,409	0.28	0.45
1 if performed other household chores	23,409	0.19	0.39
1 if perceive to get poor grades in school due to work	25,693	0.06	0.24
1 if currently attending school or training institution	16,768	0.87	0.33
Age started working for the first time	16,768	6.76	1.97
1 work affect regular school/training attendance or studies	14,648	0.06	0.24

Source: Author's computations using ILFS 2020/2021 data set

other hand, 36% of children cooked and 59% cleaned for the household during the week before the survey. Similarly, 60% of the children washed clothes for the household, while 28% of the children cared for the preschoolers, old or sick. In addition, 19% of the children reported to have done other household tasks during the week preceding the survey. Concerning the children's educational performance, 6% of the children perceive to get poor grades in school due to work.

In Table 2, I report the descriptive statistics by gender. The table shows that there is gender heterogeneity. Boys spend more hours on economic activities than girls. In addition, the proportion of boys involved in economic activities for pay, profit or home use is significantly higher than that of girls. As expected, girls spent significantly more hours on household chores than boys. Similarly, regarding specific tasks performed, girls seem to be disadvantaged. The proportion of girls who reported to have cooked for the household during the week before the survey is significantly higher than that of boys. This is also true for the proportion of girls who reported to have cleaned for the household. The percentage of girls who washed clothes for the household a week before the survey is statistically significantly higher than that of boys. Unsurprisingly, the percentage of girls that cared for the preschoolers, old or sick is higher than that of boys. The same is true for the proportion of girls performing other household chores. Of all the household tasks mentioned, boys seem to dominate girls in shopping for the household and repairing household equipment.

Table 3 presents the pairwise correlation between child labour and a child's educational performance. In column 1, hours dedicated to household chores per week are strongly positively related to a child's perception that he/she got poor grades in school because of work. Similarly, having done any activities for pay, profit or home use during the 12 months preceding the survey strongly and positively correlates with a child's perception that he/she got poor grades in school because of work. Furthermore, a child's perception of getting poor grades in school is strongly and positively correlated with reporting that work affected his/her regular school attendance or studies. Overall, the descriptive statistics suggest that child labour may affect children's educational performance. This provides a basis to perform more rigorous analyses whose methodology is described in the Section on "[Estimation strategy](#)".

Main reasons for children to work

During the survey, children were asked to explain why they work (Fig. 2). The findings reveal that more than half (65.2%) of the children reported good upbringing and imparting of skills as their main reason for working. This is perhaps related to housekeeping chores. On the other hand, 23.4% of the children stated that they work to assist or help in household enterprises. Another reason given was to augment household income (4.7%). Surprisingly, 4.6% of the working children reported working because of peer pressure. On the other hand, 0.3% of the children chose to work because education training/programmes were unsuitable. Some children reported that they work because they cannot afford education expenses (0.4%) and because of the long distance to educational institutions (0.2%).

What will happen if the child stops working?

During the survey, children were also asked to explain what would happen if they stopped working (Fig. 3). The majority (63.4%) said that nothing would happen. Nevertheless, a significant percentage of children gave some possible consequences with 30% of the

Table 2 Summary statistics by gender

	Boys (<i>n</i> = 12,817)	Girls (<i>n</i> = 12,876)	Mean diff
Age	10.59	10.64	-0.05
Total hours spent on economic activities during the week preceding the survey	3.42	2.53	0.89***
1 if attending school	0.85	0.86	-0.01***
1 if completed school	0.03	0.03	-0.01***
1 if drop out of school	0.03	0.02	0.01***
1 if never attended school	0.10	0.08	0.02***
1 if perceive to get poor grades in school due to work	0.06	0.07	-0.01**
	(<i>n</i> = 11,671)	(<i>n</i> = 11,738)	
1 if did any activities for pay, profit or home use during the 12 months preceding the survey	0.20	0.18	0.03***
1 if did household duties or economic activities during the week preceding the survey	0.70	0.73	-0.03***
Total hours spent working on household chores per week	4.82	6.76	-1.94***
<i>Household chores performed by the child during the week preceding the survey</i>			
1 if did shopping for the household	0.70	0.69	0.01***
1 if repaired household equipment	0.11	0.06	0.05***
1 if cooked for the household	0.22	0.50	-0.28***
1 if cleaned for the household	0.43	0.75	-0.32***
1 if washed clothes for the household	0.55	0.65	-0.10***
1 if cared for preschoolers/old/sick	0.21	0.35	-0.14***
1 if performed other household chores	0.18	0.19	-0.01

Source: Author's computations using ILFS 2020/2021 data set

working children stating that their parents will lose someone to assist. Relatedly, 2.2% reported that they could not support their parents. On the other hand, 2.3% said that they would lose income, while 0.3% said they would fail to meet school expenses.

What would a child prefer to do if given a choice?

The survey had a question that asked children to mention what they would prefer to do if given a choice. The responses are shown in Fig. 4. The majority (85.4%) said they would choose to go to school full-time. This suggests that many children are in child labour, not because they like to do so. Surprisingly, 2.4% reported that they would work for income full-time. Those who would work full-time in household chores or housekeeping account for 1%. Other responses that were given include helping in a household enterprise or business (0.8%), going to school part-time and working part-time for income (1.4%), working part-time in a household enterprise or business (0.3%), working part-time in a household chores or housekeeping (2.8%), find a better job than the present one (1.2%) and continue with current work (1%). Only 1% reported that they would complete their education and start to work.

Estimation strategy

In this section, I estimate three equations: the correlates of child labour, the relationship between child labour and the child's educational performance, and the potential pathways through which child labour may negatively affect child performance in school.

Correlates of child labour

Several child and household characteristics can influence child labour. I formally estimate the following model to examine the correlates of child labour.

$$\text{Childlabour}_{ij} = \alpha_0 + \beta C_{ij} + \pi H_j + \gamma_r + \mathcal{E}_{ij} \quad (1)$$

where subscripts i and j represent the child and household, respectively. Childlabour_{ij} is the dependent variable with five variants: total hours the child spent performing economic activities during the week preceding the survey, a dummy variable equal to one if the child performed household duties or economic activities during the week preceding the survey and zero otherwise, a dummy variable equal to one if the child did any activities for pay, profit or home use during the 12 months preceding the survey, total hours spent on household chores per week and household chores index. C_{ij} is a set of child i th characteristics such as gender and age. H_j is the vector of household j th characteristics including, gender of household head, household head's age, household head's education level, household size, number of preschoolers, asset ownership (asset index),¹⁵ and household head's sector of main employment. In H_j , I also include access to essential services, namely whether there is a primary school within 30 minutes and whether there is a secondary school within

¹⁵ During the survey, each household was asked whether it owns the following assets: car, tricycle, motorcycle, bicycle, cart, refrigerator, cooker, television, iron, phone, radio, plough, stove, livestock, tiller, others. I use principal component analysis technique to construct an index for asset ownership.

Table 3 Pairwise correlation between child labour and educational performance of the child

	1 if child perceives getting poor grades in school due to work	Total hours spent on chores per week	Total hours spent on economic activities during the week preceding the survey	1 if did any activities for pay, profit or home use during the 12 months preceding the survey	1 if work affected regular school attendance or studies
1 if child perceives getting poor grades in school due to work	1				
Total hours spent on chores per week	0.035***	1			
Total hours spent on economic activities during the week preceding the survey	0.007	0.246***	1		
1 if did any activities for pay, profit or home use during the 12 months preceding the survey	0.050***	0.215***	0.571***	1	
1 if work affected regular school attendance or studies	0.108***	0.037***	0.064***	0.105***	1

Source: Author's computations using ILSFS 2020/2021 data set

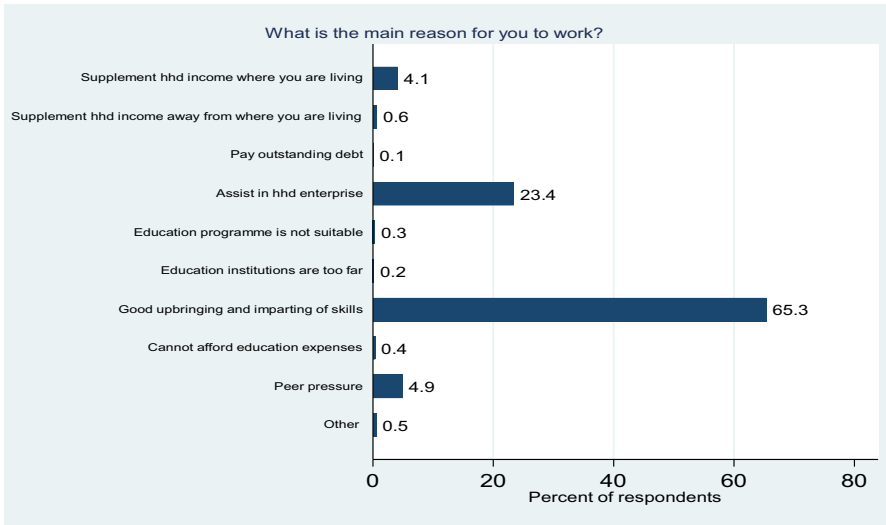


Fig. 2 Main reasons for children to work

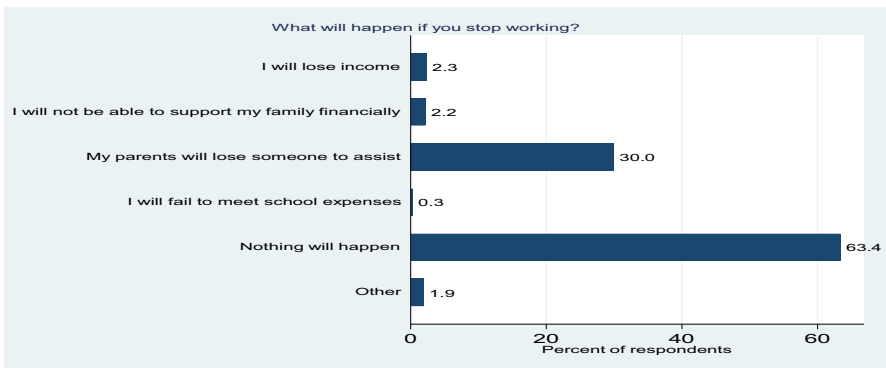


Fig. 3 What will happen if the child stops working?

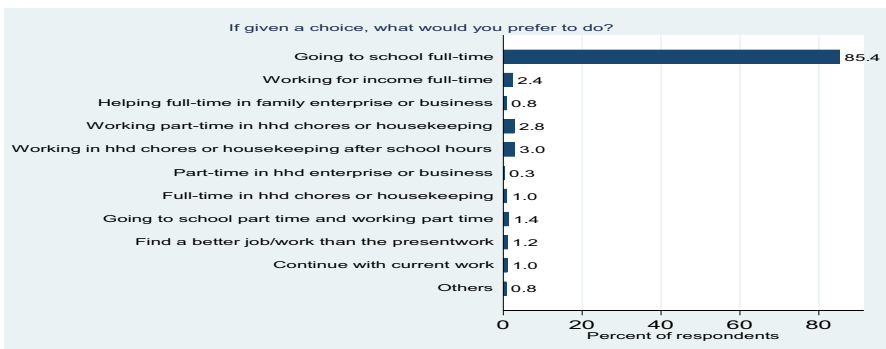


Fig. 4 What would you prefer to do if given a choice? Source: drawn using ILFS 2020/2021 data set

30 minutes from the household. γ_r is a set of region dummies expected to capture any effect of region differences in child labour. \mathcal{E}_{ij} is the error term. The standard errors are robust, and I account for correlation within the enumeration area by clustering them at the enumeration area level.

In Eq. (1), some outcomes are dummies, and others are continuous variables. For the former, I use the linear probability model (LPM). I choose LPM over other models, such as probit, because of its ease of estimation and interpretation of the estimated marginal effects. Moreover, there is no need for strict assumptions on the distribution form of the error term. However, the limitation of LPM is that the fitted value of the dependent variable may not necessarily be in the interval $[0, 1]$. I examine whether this affects the estimates using the probit model (the results are similar but not reported to economise space). For the continuous variables—total hours the child devoted to economic activities during the week preceding the survey and total hours spent on household chores per week, I use linear models. However, it is worth mentioning that many children do not engage in these activities.¹⁶ To further check the robustness of the results, I created two dummy variables—whether a child worked for some hours in economic activities during the week preceding the survey and whether a child worked for some hours in chores during the week preceding the survey; I use LPM to estimate these. I also estimate OLS models of hours of work conditional on working.¹⁷

Child labour and educational performance

Several empirical challenges are worth discussing in examining the relationship between child labour and child performance in school. A major concern is that the measures of child labour are likely to be endogenous. The endogeneity may arise from omitted variable problems or reverse causality. Regarding the former, there could be other impediments to the child's educational performance (perception of poor grades in school) other than child labour, which correlates with child labour. Indeed, if child labour indicators are not orthogonal to the error term, the estimates will be biased. To mitigate this concern, I control for several household and child characteristics. It is difficult, however, to disentangle all impediments or even think about all possible factors. Therefore, the correlation between child labour and schooling could be driven by factors other than those we are able to control for. For example, unobserved heterogeneity such as parents' preferences towards education, children's preferences towards education and children's ability could also affect schooling. Another example of an omitted variable is that the less able children are more likely to be involved in child labour; if the ability is negatively correlated with the perception of getting poor grades in school because of work, the estimates will be upwardly biased.

¹⁶ They are censored at zero because they are observed only for the children who worked. The Tobit model is typically used for such dependent variables. However, I do not rely on it due to its strict error term assumption—normality. Moreover, the output from nonlinear models such as Tobit must be converted into marginal effects to have a meaningful interpretation of the results. It has been shown that linear model estimates and marginal effects of nonlinear models like Tobit are quite similar (Angrist & Pischke, 2009 p.103–107). I, therefore, report and discuss the estimation results from the linear models. Nonetheless, the results from Tobit estimation (though not reported to economise space) remain qualitatively similar.

¹⁷ In all these estimations, the main results remain qualitatively similar (see Table 8 in the appendix).

Regarding reverse causality, this may happen if the direction is from poor grade to child labour rather than child labour to poor grades. In other words, it may be the case that it is not child labour that leads to poor grades, but children “with poor grades” may decide to spend more time on household chores or economic activities because they lose interest in schooling. However, reverse causality might not be a serious issue here, given how the survey question was framed (see Section on “[Educational performance of a child](#)”). Nonetheless, the estimates should be interpreted cautiously as they offer insights into correlation rather than causality. To this end, I examine the relationship between child labour and the child’s educational performance by estimating the following model.

$$PGrades_{ij} = 1\{\rho + \delta Childlabour_{ij} + \beta C_{ij} + \pi H_j + \gamma_r + \mu_{ij} > 0\} \quad (2)$$

where $PGrades_{ij}$ is an indicator of whether the child perceived to get poor grades in school because of work. $Childlabour_{ij}$, C_{ij} , H_j , γ_r , and subscripts i and j are as defined earlier in Eq. (1). μ_{ij} is the error term. I use LPM to estimate Eq. (2).

Potential pathways: child labour and regular school attendance or studies

As discussed in the conceptual framework, one of the potential pathways through which child labour might negatively affect the child’s educational performance is that it could affect regular school attendance or studies. I examine this potential mechanism by estimating the following model.

$$AtSt_{ij} = 1\{\varphi + \delta Childlabour_{ij} + \beta C_{ij} + \pi H_j + \gamma_r + \mu_{ij} > 0\} \quad (3)$$

where, conditional on whether the child performed household duties or economic activities and whether the child was attending school or training on a full-time or part-time basis, $AtSt$ is an indicator of whether the child perceives that work affects his/her regular school attendance or studies. $Childlabour$ takes four variants—total hours spent performing economic activities during the week preceding the survey, whether a child did any activities for pay, profit or home use during the 12 months preceding the survey, total hours a child spent on household chores per week and household chores index. C_{ij} , H_j and γ_r are as defined earlier in Eq. (1). μ_{ij} is the error term. To estimate the continuous and dummy variables in Eq. (3), I use OLS and LPM, respectively.

Estimation results

Correlates of child labour

Table 4 presents estimates of the correlates of child labour in Tanzania. In column 1, the outcome variable is the log of the total hours the child spent performing economic activities during the week preceding the survey. In column 2, the outcome variable is a dummy equal to one if the child performed household duties or economic activities. In column 3, the outcome variable is whether the child performed any activities for pay, profit or home use during the 12 months preceding the survey. In column 4, the outcome variable is the total hours the child spent on household chores per week; and in column 5, the outcome variable is the household chores index.

The results presented in columns 1 and 3 suggest that compared to boys, girls spend fewer hours on economic activities and are less likely to do activities for pay, profit or home use. On the other hand, the results in columns 2, 4 and 5 suggest that girls are more likely to perform household duties or economic activities (column 2) and spend more hours on household chores than boys (column 4). The positive and statistically significant coefficient on age indicates that older children are more likely to perform household duties or economic activities (column 2) and more likely to do activities for pay, profit or home use (column 3) than the younger ones. Similarly, older children spend more hours on economic activities (column 1) and household chores (columns 4 and 5). The coefficient on household size is negative and statistically significant in columns 4 and 5, suggesting that the larger the family size, the more labour supply is available in the household. As a result, children may be excluded from household chores or spend less time on chores since there are many household members to share the responsibilities.

Furthermore, the table reveals a positive and statistically significant relationship between the number of preschoolers and measures of child labour, suggesting that children aged 5–17 years in households with more preschoolers may be spending more time taking care of the preschoolers, hence more time on chores. Moreover, as one would expect, there is a negative and statistically significant relationship between asset ownership and child labour, suggesting that wealthier households may employ labourers from outside the household instead of relying on children to supply labour because they can afford to pay them. Similarly, compared to children in households whose head's main sector of employment is formal, children in households whose heads' main sector of employment is agriculture spend more hours on economic activities (column 1) and are more likely to do activities for pay, profit or home use (column 3).

Child labour and school performance

In Table 5, I present the results of the estimations to understand whether and how child labour relates to child performance in school. Indeed, the results suggest that child labour is negatively related to children's performance in school. In column 2, children who performed household duties or economic activities are more likely to perceive that they got poor grades in school because of work by around 9 percentage points higher than their counterparts. Similarly, children who performed any activities for pay, profit or home use during the 12 months preceding the survey are more likely to perceive that they got poor grades in school because of work by around 4 percentage points higher than those who did not do such activities (column 3).

In column 4, we see that the more hours a child spends on household chores, the higher the probability of perceiving that s/he got poor grades in school because of work. Specifically, a one-unit increase in hours spent on household chores is associated with 0.013 units increase in the likelihood that children perceive to get poor grades because of work. However, the magnitude of the coefficient is relatively small. This is, however, not surprising because, in Table 1, the average hours spent on household chores per week is 6. Therefore, at least for the average child in the sample, household chores may not impede attending classes. Indeed, this may explain why the estimated coefficients are modest in size.

To check whether the observed relationship is the same across different age groups, in Table 6, I split the sample into two subsamples and re-estimated Eq. (2) for the two categories. The first subsample is of children between 5 and 14 years, while the second is children

Table 4 Correlates of child labour

	(1)	(2)	(3)	(4)	(5)
	Log total hours spent on economic activities during the week preceding the survey	1 if performed household duties or economic activities	1 if did any activities for pay, profit or home use during the 12 months preceding the survey	Log total hours spent on household chores per week	Household chores index
1 if girl	-0.090*** (-6.712)	0.027*** (4.267)	-0.024*** (-5.311)	0.465*** (14.915)	0.743*** (31.601)
Age	0.089*** (23.474)	0.038*** (25.225)	0.035*** (22.944)	0.290*** (40.291)	0.271*** (77.122)
1 if a female-headed household	0.013 (0.649)	0.007 (0.676)	-0.001 (-0.135)	0.008 (0.171)	0.037 (1.390)
Household head's age	-0.001 (-1.601)	0.000 (1.137)	0.000 (0.096)	0.001 (0.349)	0.001 (1.289)
<i>Household head's education level[†]</i>					
Primary education	-0.109*** (-3.844)	0.011 (0.738)	-0.023** (-2.062)	0.011 (0.174)	0.045 (1.266)
Secondary education	-0.096*** (-3.258)	0.007 (0.356)	-0.023* (-1.780)	0.001 (0.010)	0.035 (0.759)
Vocational training	-0.038 (-0.738)	0.030 (0.898)	-0.015 (-0.618)	0.304** (2.283)	0.216*** (2.631)
Tertiary non-university	-0.170*** (-3.727)	0.031 (0.979)	-0.033 (-1.495)	0.178 (1.268)	0.149* (1.780)
University	-0.030 (-0.689)	-0.036 (-1.054)	-0.011 (-0.595)	-0.164 (-1.122)	-0.019 (-0.227)
Household size	-0.001 (-0.227)	-0.008*** (-3.767)	0.000 (0.131)	-0.062*** (-5.390)	-0.056*** (-10.624)
Number of preschoolers	0.044*** (4.418)	0.020*** (3.655)	0.015*** (3.721)	0.105*** (4.192)	0.139*** (8.975)
Asset index	-0.028*** (-4.248)	-0.000 (-0.013)	-0.013*** (-4.586)	-0.043** (-2.476)	-0.023** (-2.310)

Table 4 (continued)

	(1)	(2)	(3)	(4)	(5)
<i>Household head's sector of main employment</i> ⁺⁺					
Informal sector	-0.076*** (-3.528)	0.014 (1.084)	-0.031*** (-3.527)	0.047 (0.804)	0.010 (0.285)
Agricultural sector	0.073*** (2.798)	0.055*** (3.759)	0.044*** (3.904)	0.027 (0.446)	0.016 (0.403)
1 if the household resides in a rural area	0.148*** (4.850)	-0.042 (-1.602)	0.073*** (4.866)	0.117 (1.126)	0.098* (1.758)
Primary school within 30 minutes from household (= 1)	-0.060 (-1.435)	-0.003 (-0.123)	0.010 (0.533)	0.027 (0.298)	-0.001 (-0.019)
Secondary school within 30 minutes from household (= 1)	-0.045 (-1.437)	-0.014 (-0.632)	-0.015 (-1.080)	0.069 (0.867)	0.077 (1.583)
Constant	-0.706*** (-9.485)	0.059 (0.490)	-0.397*** (-11.780)	-3.176*** (-8.110)	-3.309*** (-26.410)
Observations	25,693	23,409	23,409	23,409	23,409
R-squared	0.209	0.164	0.284	0.278	0.468
Regional dummies	Yes	Yes	Yes	Yes	Yes

The robust t-statistics are in the parentheses. ***, ** and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/ enumeration area level. ⁺Reference category is never attended, ⁺⁺ Reference category is formal sector

between 15 and 17. The subsample analysis might be interesting because, as highlighted in the section on "[Child labour policies in Tanzania](#)", laws in Tanzania provide many interpretations of a child. While the Child Development Policy 1996 defines a child as a person under eighteen, the Employment Act defines a child as a person under 14 years. However, the same law states that for employment in hazardous sectors, a child means a person under the age of 18 years (URT, 2004) (see Section on "[Child labour policies in Tanzania](#)" for more details).

Like in the previous analysis, I use different measures of child labour. Columns 1–5 report the results of the subsample of children between 5 and 14 years, while columns 6–10 present the results of the subsample of children aged 15–17 years. Again, the signs of all the measures of child labour remain the same in both subsamples, but overall, the magnitudes of the coefficients increase in the subsample of children between 5 and 14 years. For example, while in the total sample (Table 5), children who did any activities for pay, profit or home use during the 12 months preceding the survey are more likely to perceive that they got poor grades in school because of work by around 4 percentage points higher than those who did not do such activities; here (in Table 6) children (5–14 years) who did the same activities during the same period are more likely to perceive that they got poor grades in school because of work by around 5 percentage points higher than those who did not do such activities. However, overall, the results of this subsample corroborate those of the total sample.

Regarding the subsample of children between 15 and 17 years, although the signs of the coefficients remain the same, the magnitudes of the coefficients shrink in all but one column—column 2. This suggests that the impact may differ across different age groups. The results suggest that younger children (5–14 years) are more affected in schooling than older children (15–17 years).

Potential pathways: child labour and regular school attendance or studies

In Table 7, conditional on whether the child performed household duties or economic activities, I predict regular school attendance or studies based on child labour and a range of child and household characteristics (Eq. (3)). In column 1, I find a positive and statistically significant relationship between total hours spent on economic activities during the week preceding the survey and the likelihood that work affects regular school attendance or studies. Similarly, in column 2, the probability that work affects regular school attendance or studies is higher for children who did any activities for pay, profit or home use during the 12 months preceding the survey than those who did not. I also find a positive and statistically significant relationship between the total hours a child spends on household chores per week and the likelihood that work affects regular school attendance or studies.

However, it is worth mentioning that there could be other mechanisms through which child labour may affect child performance at school. Such mechanisms may include fatigue due to household chores and other economic activities. Hence, the inability to do homework—chores and economic activities may displace time for doing homework or attending after-school tutorials. All these may still lead to perceived poor performance even though the child attends school regularly. However, examining all these potential mechanisms is impossible due to data limitations. I also re-estimate the regressions with the two subsamples (5–14 years and 15–17 years) and provide the results in Table 9. The magnitudes and

Table 5 Child labour and school performance. Dependent variable: 1 if the child perceives to get poor grades in school because of work

	(1)	(2)	(3)	(4)	(5)
Log total hours spent on economic activities during the week preceding the survey	0.002 (0.743)				
1 if performed household duties or economic activities		0.087*** (9.777)			
1 if performed any activities for pay, profit or home use during the 12 months preceding the survey			0.035*** (3.355)		
Log total hours spent on household chores per week				0.013*** (6.939)	0.017*** (6.245)
Household chores index					
1 if girl	0.007** (1.984)	0.005 (1.265)	0.008** (2.089)	0.001 (0.221)	-0.006 (-1.525)
Age	0.006*** (8.742)	0.002*** (2.947)	0.004*** (5.966)	0.001* (1.729)	0.000 (0.423)
1 if headed female-headed household	-0.006 (-1.213)	-0.007 (-1.305)	-0.007 (-1.170)	-0.007 (-1.205)	-0.007 (-1.293)
Household head's age	-0.000 (-0.640)	-0.000 (-0.686)	-0.000 (-0.526)	-0.000 (-0.559)	-0.000 (-0.618)
<i>Household head's education level⁺</i>					
Primary education	-0.026*** (-2.752)	-0.031*** (-2.986)	-0.029*** (-2.783)	-0.030*** (-2.888)	-0.030*** (-2.927)
Secondary education	-0.030** (-2.516)	-0.035*** (-2.653)	-0.033** (-2.502)	-0.034*** (-2.597)	-0.035*** (-2.622)
Vocational training	-0.005 (-0.302)	-0.008 (-0.422)	-0.005 (-0.259)	-0.010 (-0.486)	-0.009 (-0.472)
Tertiary non-university	-0.028	-0.035*	-0.031	-0.034*	-0.034*

Table 5 (continued)

	(1)	(2)	(3)	(4)	(5)
University	(-1.510) -0.044*** (-2.921)	(-1.760) -0.045*** (-2.777)	(-1.535) -0.048*** (-2.893)	(-1.728) -0.046*** (-2.811)	(-1.732) -0.048*** (-2.905)
Household size	0.000 (0.343)	0.001 (0.522)	-0.000 (-0.108)	0.001 (0.590)	0.001 (0.720)
Number of preschoolers	-0.004 (-1.620)	-0.004 (-1.339)	-0.003 (-0.953)	-0.004 (-1.237)	-0.005 (-1.600)
Asset index	0.002 (0.729)	0.002 (0.729)	0.002 (0.872)	0.003 (0.924)	0.002 (0.857)
<i>Household head's sector of main employment</i> **					
Informal sector	-0.001 (-0.167)	-0.003 (-0.408)	-0.001 (-0.094)	-0.002 (-0.323)	-0.002 (-0.265)
Agricultural sector	0.014 (1.543)	0.011 (1.122)	0.014 (1.442)	0.015 (1.573)	0.015 (1.585)
1 if the household resides in a rural area	-0.001 (-0.086)	0.002 (0.117)	-0.004 (-0.249)	-0.003 (-0.191)	-0.003 (-0.199)
Primary school within 30 minutes from household (= 1)	0.002 (0.176)	0.002 (0.161)	0.001 (0.111)	0.001 (0.112)	0.002 (0.140)
Secondary school within 30 minutes from household (= 1)	-0.004 (-0.348)	-0.003 (-0.246)	-0.004 (-0.295)	-0.005 (-0.407)	-0.006 (-0.435)
Constant	-0.030 (-1.370)	-0.025 (-1.010)	-0.006 (-0.239)	0.022 (0.894)	0.037 (1.492)
Observations	25,693	23,409	23,409	23,409	23,409
R-squared	0.065	0.085	0.067	0.075	0.072
Regional dummies	Yes	Yes	Yes	Yes	Yes

Table 5 (continued)

The robust t-statistics are in the parentheses. ***, **, * and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/ enumeration area level. +Reference category is never attended, ++ Reference category is formal sector

Source: Author's analysis using ILFS 2020/2021 data set

signs of the coefficients of the first subsample largely corroborate with the total sample analysis.

Conclusion and policy implications

Although investment in children's education is crucial for a country's development, in most developing countries, educational attainment remains low. One of the impediments to the low level of education is believed to be child labour. This paper examines child labour and child schooling in Tanzania. It begins by examining the correlates of child labour. Subsequently, it examines whether and how child labour relates to the child's educational performance. This is understood by examining the potential pathways through which child labour may affect the children's educational performance.

Regarding the correlates of child labour, I find that girls are more likely than boys to perform household duties or economic activities and spend more hours on household chores. I also find a positive and statistically significant relationship between the number of preschoolers and the total hours children aged 5–17 spend on household chores, suggesting that the latter may be spending more time caring for the former. As expected, I found a negative and statistically significant relationship between asset ownership and child labour. This suggests that wealthier households may hire outside workers instead of relying on children to supply labour because they can afford to pay them.

Concerning child labour and the children's educational performance, I find that children who performed household duties or economic activities are, on average, more likely to perceive that they got poor grades in school because of work by around 9 percentage points higher than their counterparts. Similarly, children who did any activities for pay, profit or home use during the 12 months preceding the survey are more likely to perceive that they got poor grades in school because of work by around 4 percentage points higher than those who did not engage in such activities. Likewise, I find that children who spend more hours on household chores are more likely to perceive that they get poor grades at school because of work. Regarding potential pathways, I find a positive and statistically significant relationship between total hours spent performing economic activities during the week preceding the survey and the likelihood that work affects regular school attendance or studies. Similarly, the probability that work affects regular school attendance or studies is higher for children who did activities for pay, profit or home use during the 12 months preceding the survey than those who did not. I also find a positive and statistically significant relationship between the total hours a child spends on household chores per week and the likelihood that work affects regular school attendance or studies.

However, it is worth noting that the analysis and results of this study may suffer from some caveats. Firstly, some of the outcomes studied in the paper, such as the children's educational performance, are constructed based on the children's perceptions of their educational performance. It is unclear, given the data we use to know how far the perceptions reflect reality. Second, given the data we use, the analysis only offers insight into correlation, not a causal relationship.

Notwithstanding the above caveats, the findings of this paper have important policy implications. One of the significant reasons this study revealed that compels children to work and consequently engage in child labour is the need to provide income to households. Indeed, when children in child labour were asked to mention what would happen if they were to stop working, about 32% of them reported that they would not be able to support

Table 6 Child labour and school performance (subsample analysis).
 Dependent variable: 1 if the child perceives to get poor grades in school because of work

	Subsample 5–14 years				Subsample 15–17 years					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log total hours spent on economic activities during the week preceding the survey	0.008*					0.000				
1 if did household duties or economic activities	(1.906)	0.084*** (9.537)				(0.013)	0.091*** (7.407)			
1 if did any activities for pay, profit or home use during the 12 months preceding the survey			0.046*** (3.546)					0.026** (2.232)		
Log total hours spent on household chores per week				0.013*** (6.867)					0.007*** (3.254)	
Household chores index					0.017*** (6.112)					0.011*** (2.866)
1 if girl	0.007* (1.907)	0.004 (1.032)	0.007* (1.946)	0.001 (0.218)	-0.005 (-1.262)	0.008 (0.970)	0.006 (0.799)	0.008 (1.053)	0.003 (0.361)	-0.004 (-0.406)
Age	0.009*** (8.575)	0.005*** (4.637)	0.007*** (7.155)	0.004*** (3.695)	0.003** (2.332)	-0.004 (-0.978)	-0.005 (-1.198)	-0.006 (-1.304)	-0.005 (-1.075)	-0.004 (-1.056)
1 if female-headed household	-0.005 (-0.836)	-0.006 (-0.932)	-0.005 (-0.796)	-0.005 (-0.800)	-0.005 (-0.886)	-0.013 (-1.374)	-0.012 (-1.367)	-0.012 (-1.333)	-0.013 (-1.388)	-0.013 (-1.400)
Household head's age	-0.000 (-0.485)	-0.000 (-0.549)	-0.000 (-0.446)	-0.000 (-0.439)	-0.000 (-0.499)	-0.000 (-0.721)	-0.000 (-0.935)	-0.000 (-0.686)	-0.000 (-0.782)	-0.000 (-0.787)
Household head's education level [†]										
Primary education	-0.027*** (-2.769)	-0.034*** (-3.096)	-0.032*** (-2.861)	-0.033*** (-2.976)	-0.033*** (-3.005)	-0.019 (-1.520)	-0.019 (-1.506)	-0.018 (-1.431)	-0.020 (-1.535)	-0.020 (-1.587)

Table 6 (continued)

	Subsample 5–14 years				Subsample 15–17 years					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Secondary education	-0.030** (-2.391)	-0.037*** (-2.635)	-0.035** (-2.447)	-0.035** (-2.498)	-0.036** (-2.562)	-0.027 (-1.604)	-0.025 (-1.471)	-0.025 (-1.486)	-0.029* (-1.671)	-0.027 (-1.609)
Vocational training	0.007 (0.390)	0.005 (0.212)	0.009 (0.419)	0.004 (0.198)	0.005 (0.208)	-0.050* (-1.713)	-0.049* (-1.748)	-0.050* (-1.708)	-0.052* (-1.795)	-0.053* (-1.805)
Tertiary non-university	-0.034* (-1.864)	-0.043** (-2.153)	-0.039* (-1.914)	-0.043** (-2.117)	-0.043** (-2.124)	-0.008 (-0.220)	-0.010 (-0.270)	-0.007 (-0.193)	-0.009 (-0.264)	-0.010 (-0.274)
University	-0.040** (-2.518)	-0.043** (-2.435)	-0.045** (-2.510)	-0.043** (-2.432)	-0.046** (-2.576)	-0.057** (-2.215)	-0.053** (-2.091)	-0.056** (-2.213)	-0.056** (-2.224)	-0.055** (-2.180)
Household size	0.000 (0.202)	0.001 (0.662)	-0.000 (-0.087)	0.001 (0.741)	0.001 (0.792)	-0.001 (-0.415)	-0.001 (-0.324)	-0.001 (-0.387)	-0.001 (-0.312)	-0.000 (-0.186)
Number of preschoolers	-0.003 (-1.160)	-0.003 (-1.155)	-0.002 (-0.768)	-0.003 (-1.080)	-0.004 (-1.384)	-0.004 (-0.587)	-0.005 (-0.812)	-0.004 (-0.683)	-0.004 (-0.676)	-0.005 (-0.802)
Asset index	0.002 (0.827)	0.002 (0.718)	0.003 (0.905)	0.003 (0.951)	0.002 (0.870)	0.002 (0.561)	0.002 (0.562)	0.003 (0.690)	0.002 (0.610)	0.002 (0.603)
<i>Household head's sector of main employment^{††}</i>										
Informal sector	-0.003 (-0.444)	-0.006 (-0.734)	-0.003 (-0.433)	-0.005 (-0.664)	-0.004 (-0.566)	0.009 (0.651)	0.007 (0.526)	0.010 (0.733)	0.008 (0.616)	0.008 (0.561)
Agricultural sector	0.015* (1.657)	0.013 (1.281)	0.016 (1.559)	0.017* (1.724)	0.017* (1.709)	0.012 (0.799)	0.006 (0.431)	0.010 (0.665)	0.011 (0.739)	0.012 (0.763)
1 if the household resides in a rural area	0.001 (0.057)	0.005 (0.309)	-0.001 (-0.073)	0.001 (0.035)	-0.000 (-0.002)	-0.015 (-0.746)	-0.012 (-0.591)	-0.018 (-0.912)	-0.017 (-0.852)	-0.016 (-0.817)
Primary school within 30 minutes from household (= 1)	0.002	0.002	0.002	0.002	0.002	-0.003	-0.001	-0.003	-0.003	-0.002

Table 6 (continued)

	Subsample 5–14 years				Subsample 15–17 years					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Secondary school within 30 minutes from household (= 1)	(0.206) -0.003	(0.160) -0.002	(0.133) -0.003	(0.137) -0.005	(0.147) -0.005	(-0.178) -0.004	(-0.084) -0.005	(-0.235) -0.004	(-0.182) -0.005	(-0.132) -0.005
Constant	(-0.277) -0.056**	(-0.168) -0.048*	(-0.223) -0.035	(-0.359) -0.001	(-0.384) 0.017	(-0.270) 0.108	(-0.309) 0.076	(-0.234) 0.129*	(-0.314) 0.112	(-0.340) 0.106
Observations	(-2.368) 20,564	(-1.791) 18,280	(-1.342) 18,280	(-0.045) 18,280	(0.633) 18,280	(1.393) 5,129	(1.000) 5,129	(1.666) 5,129	(1.476) 5,129	(1.400) 5,129
R-squared	0.069	0.090	0.072	0.080	0.076	0.079	0.092	0.081	0.081	0.081
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The robust t-statistics are in the parentheses. ***, ** and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/ enumeration area level. †Reference category is never attended, ++ Reference category is formal sector

Source: Author's analysis using ILFS 2020/2021 data set

Table 7 Child labour and regular school attendance. Dependent variable: 1 if work affects his regular school attendance or studies

	(1)	(2)	(3)	(4)
Log total hours spent on economic activities during the week preceding the survey	0.014*** (3.244)			
1 if did any activities for pay, profit or home use during the 12 months preceding the survey		0.040*** (3.833)		
Log total hours spent on household chores per week			0.005** (2.259)	
Household chores index				0.009*** (3.585)
1 if girl	0.002 (0.618)	0.002 (0.561)	-0.001 (-0.281)	-0.006 (-1.568)
Age	0.001** (2.143)	0.001* (1.682)	0.001** (2.020)	0.000 (0.243)
1 if headed female-headed household	-0.004 (-0.851)	-0.004 (-0.751)	-0.004 (-0.721)	-0.004 (-0.838)
Household head's age	0.000 (0.301)	0.000 (0.232)	0.000 (0.308)	0.000 (0.308)
<i>Household head's education level⁺</i>				
Primary education	0.005 (0.821)	0.005 (0.773)	0.005 (0.779)	0.005 (0.704)
Secondary education	-0.014 (-1.623)	-0.014 (-1.636)	-0.014 (-1.624)	-0.014* (-1.690)
Vocational training	-0.010 (-0.760)	-0.010 (-0.752)	-0.010 (-0.760)	-0.012 (-0.866)
Tertiary non-university	-0.001 (-0.035)	-0.002 (-0.090)	-0.002 (-0.124)	-0.003 (-0.152)
University	0.011 (0.585)	0.011 (0.582)	0.011 (0.613)	0.010 (0.569)
Household size	-0.000 (-0.328)	-0.000 (-0.335)	-0.000 (-0.100)	0.000 (0.149)
Number of preschoolers	0.002 (0.676)	0.002 (0.638)	0.002 (0.747)	0.001 (0.409)
Asset index	-0.002 (-1.063)	-0.001 (-0.966)	-0.002 (-1.202)	-0.002 (-1.187)
<i>Household head's sector of main employment⁺⁺</i>				
Informal sector	0.001 (0.174)	0.001 (0.192)	0.000 (0.058)	0.001 (0.081)
Agricultural sector	0.005 (0.591)	0.004 (0.446)	0.006 (0.711)	0.006 (0.701)
1 if the household resides in a rural area	0.000 (0.032)	-0.001 (-0.097)	0.002 (0.213)	0.002 (0.189)
Primary school within 30 minutes from household (= 1)	0.002 (0.292)	0.002 (0.189)	0.003 (0.360)	0.002 (0.290)

Table 7 (continued)

	(1)	(2)	(3)	(4)
Secondary school within 30 minutes from household (= 1)	−0.009 (−1.303)	−0.009 (−1.324)	−0.010 (−1.418)	−0.010 (−1.381)
Constant	−0.009 (−0.442)	−0.003 (−0.143)	−0.017 (−0.859)	0.002 (0.114)
Observations	14,648	14,648	14,648	14,648
R-squared	0.029	0.030	0.027	0.028
Regional dummies	Yes	Yes	Yes	Yes

The robust t-statistics are in the parentheses. ***, ** and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/enumeration area level. +Reference category is never attended, ++ Reference category is formal sector.

their parents or that their parents would lose someone to assist. A policy or social programme to financially support or empower households whose children are in child labour may help to rescue these children from child labour. Such households can be financially empowered through government programmes such as the Tanzania Social Action Fund, microfinance institutions or other means to enable them to engage in improved productive activities. This will eliminate the need to rely on children as sources of income for households.

Second, the results reveal that children who spend more hours on household chores are more likely to report that they get poor grades at school because of work. This is also true for children who were engaged in household duties or economic activities and those who did any activities for pay, profit or home use during the 12 months preceding the survey. Regarding potential pathways of the obtained results, hours spent performing economic activities during the week preceding the survey and hours spent on household chores per week affect regular school attendance or studies. Similarly, engaging in activities for pay, profit or home use affects regular school attendance or studies. All these call for drastic policies to rescue children engaging in such economic activities. This would make children attend schools regularly and increase their time for private studies. In addition, policymakers and other stakeholders must address the issue of children's excessive involvement in domestic activities. Possible ways to reduce this burden on children include promoting and providing affordable technologies to reduce the time spent on domestic work (Opoku et al. 2023).

Appendix

See Tables 8 and 9.

Table 8 Correlates of child labour

	1 if spent some positive hours on household chores and 0 otherwise	Log hours spent on household chores conditional on working for some positive hours	1 if spent some positive hours on economic activities and 0 otherwise	Log hours spent on economic activities conditional on working for some positive hours
	(1)	(2)	(3)	(4)
1 if girl	0.040*** (7.749)	0.306*** (14.407)	-0.027*** (-6.026)	-0.120*** (-4.117)
Age	0.037*** (24.618)	0.127*** (32.632)	0.030*** (23.779)	0.070*** (9.982)
1 if female-headed household	0.001 (0.083)	-0.001 (-0.020)	0.004 (0.543)	0.001 (0.029)
Household head's age	0.000 (0.238)	0.000 (0.415)	-0.000 (-1.108)	-0.003* (-1.840)
<i>Household head's education level[†]</i>				
Primary education	0.008 (0.801)	-0.032 (-0.723)	-0.027*** (-2.939)	-0.138*** (-3.221)
Secondary education	0.006 (0.412)	-0.042 (-0.757)	-0.023*** (-2.202)	-0.188*** (-2.167)
Vocational training	0.050*** (2.601)	0.063 (0.643)	-0.012 (-0.653)	0.130 (0.871)
Tertiary non-university	0.027 (1.324)	0.062 (0.583)	-0.054*** (-3.408)	0.158 (0.946)
University	-0.028 (-1.186)	-0.047 (-0.438)	-0.010 (-0.688)	0.485** (2.057)
Household size	-0.010*** (-6.333)	-0.016* (-1.814)	0.000 (0.139)	-0.008 (-1.114)
Number of preschoolers	0.013*** (3.626)	0.049*** (2.561)	0.012*** (3.454)	0.047*** (2.250)

Table 8 (continued)

	1 if spent some positive hours on household chores and 0 otherwise	Log hours spent on household chores conditional on working for some positive hours	1 if spent some positive hours on economic activities and 0 otherwise	Log hours spent on economic activities conditional on working for some positive hours
Asset index	-0.003 (-1.307)	-0.032** (-2.388)	-0.010*** (-4.352)	-0.036* (-1.803)
<i>Household head's sector of main employment</i> ⁺⁺				
Informal sector	0.015 (1.588)	-0.031 (-0.741)	-0.027*** (-3.683)	-0.070 (-0.916)
Agricultural sector	0.005 (0.570)	-0.001 (-0.021)	0.033*** (3.677)	-0.141* (-1.943)
1 if household resides in rural area	0.004 (0.263)	0.110 (1.386)	0.049*** (4.325)	0.147* (1.907)
Primary school within 30 minutes from household (=1)	0.019* (1.669)	-0.073 (-0.884)	-0.011 (-0.769)	-0.169*** (-2.887)
Secondary school within 30 minutes from household (=1)	0.009 (0.821)	0.020 (0.296)	-0.016 (-1.451)	-0.028 (-0.473)
Constant	0.474*** (14.319)	-0.838** (-2.356)	-0.264*** (-9.979)	2.420*** (8.847)
Observations	23,409	19,659	25,693	3,590
R-squared	0.175	0.211	0.226	0.178
Regional dummies	Yes	Yes	Yes	Yes

The robust t-statistics are in the parentheses. ***, ** and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/ enumeration area level. ⁺⁺Reference category is never attended, + Reference category is formal sector

Source: Author's analysis using ILFS 2020/2021 data set

Table 9 Child labour and regular school attendance (subsample analysis), Dependent variable: 1 if work affects his regular school attendance or studies

	Subsample 5–14 years				Subsample 15–17 years			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log total hours spent on economic activities during the week preceding the survey	0.014** (2.351)				0.015** (2.339)			
1 if did any activities for pay, profit or home use during the 12 months preceding the survey		0.040*** (3.192)				0.039*** (2.759)		
Log total hours spent on household chores per week			0.008*** (3.094)				-0.005 (-1.199)	
Household chores index				0.011*** (3.716)				0.004 (0.898)
1 if girl	0.003 (0.825)	-0.006 (-1.405)	-0.001 (-0.169)	-0.006 (-1.405)	-0.002 (-0.162)	-0.002 (-0.223)	-0.001 (-0.103)	-0.007 (-0.623)
Age	0.002** (2.177)	-0.000 (-0.347)	0.001 (1.449)	-0.000 (-0.347)	0.008 (1.507)	0.007 (1.458)	0.008* (1.655)	0.008 (1.590)

Table 9 (continued)

	Subsample 5–14 years			Subsample 15–17 years				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 if female-headed household	-0.010*	-0.010*	-0.010*	-0.010*	0.014	0.015	0.014	0.014
Household head's age	(-1.893) 0.000	(-1.885) 0.000	(-1.753) 0.000	(-1.885) 0.000	(1.337) -0.000	(1.475) -0.000	(1.372) -0.000	(1.391) -0.000
Household head's education level ⁺	(0.571)	(0.618)	(0.640)	(0.618)	(-0.294)	(-0.427)	(-0.402)	(-0.403)
Primary education	0.001	0.001	0.001	0.001	0.019	0.018	0.017	0.017
Secondary education	(0.123) -0.013	(0.068) -0.014	(0.168) -0.013	(0.068) -0.014	(1.431) -0.015	(1.358) -0.016	(1.324) -0.017	(1.287) -0.017
Vocational training	(-1.404) -0.013	(-1.450) -0.014	(-1.306) -0.013	(-1.450) -0.014	(-0.934) -0.004	(-0.986) -0.007	(-1.087) -0.006	(-1.069) -0.008
Tertiary non-university	(-0.858) -0.008	(-0.919) -0.011	(-0.810) -0.010	(-0.919) -0.011	(-0.147) 0.025	(-0.233) 0.022	(-0.218) 0.022	(-0.292) 0.023
University	(-0.529) -0.003	(-0.678) -0.003	(-0.641) -0.001	(-0.678) -0.003	(0.685) 0.057	(0.607) 0.056	(0.597) 0.054	(0.634) 0.055
Household size	(-0.156) -0.000	(-0.175) 0.001	(-0.078) 0.000	(-0.175) 0.001	(1.163) -0.001	(1.142) -0.001	(1.099) -0.002	(1.127) -0.001
	(-0.065)	(0.509)	(0.263)	(0.509)	(-0.755)	(-0.719)	(-0.825)	(-0.710)

Table 9 (continued)

	Subsample 5–14 years			Subsample 15–17 years				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of pre-schoolers	0.002 (0.684)	0.001 (0.391)	0.002 (0.720)	0.001 (0.391)	0.002 (0.298)	0.001 (0.249)	0.002 (0.358)	0.001 (0.254)
Asset index	-0.001 (-0.615)	-0.001 (-0.678)	-0.001 (-0.664)	-0.001 (-0.678)	-0.003 (-1.067)	-0.003 (-0.995)	-0.004 (-1.275)	-0.004 (-1.192)
<i>Household head's sector of main employment</i> ⁺⁺								
Informal sector	0.006 (0.811)	0.005 (0.730)	0.005 (0.690)	0.005 (0.730)	-0.018 (-1.407)	-0.017 (-1.368)	-0.018 (-1.460)	-0.018 (-1.460)
Agricultural sector	0.007 (0.838)	0.008 (0.873)	0.008 (0.906)	0.008 (0.873)	-0.004 (-0.296)	-0.005 (-0.341)	-0.002 (-0.123)	-0.001 (-0.108)
1 if household resides in a rural area	-0.000 (-0.039)	0.000 (0.042)	0.000 (0.052)	0.000 (0.042)	0.001 (0.120)	0.001 (0.061)	0.005 (0.453)	0.004 (0.372)
Primary school within 30 minutes from household (= 1)	0.005 (0.564)	0.005 (0.515)	0.006 (0.607)	0.005 (0.515)	-0.008 (-0.514)	-0.008 (-0.552)	-0.006 (-0.398)	-0.006 (-0.410)

Table 9 (continued)

	Subsample 5–14 years			Subsample 15–17 years				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Secondary school within 30 minutes from household (= 1)	-0.007	-0.007	-0.008	-0.007	-0.017	-0.018	-0.019	-0.019
Constant	(-0.894) -0.015 (-0.607)	(-0.972) 0.008 (0.329)	(-0.998) -0.021 (-0.886)	(-0.972) 0.008 (0.329)	(-1.306) -0.111 (-1.301)	(-1.371) -0.102 (-1.201)	(-1.443) -0.111 (-1.304)	(-1.430) -0.118 (-1.391)
Observations	11,312	11,312	11,312	11,312	3,336	3,336	3,336	3,336
R-squared	0.031	0.032	0.031	0.032	0.039	0.039	0.036	0.035
Regional dummies	Yes	Yes	Yes	yes	Yes	Yes	Yes	Yes

The robust t-statistics are in the parentheses. ***, ** and * indicates the significance level at 1%, 5% and 10%, respectively. Standard errors are clustered at the community/ enumeration area level. †Reference category is never attended, †† Reference category is formal sector

Source: Author's analysis using ILFS 2020/2021 data set

Declarations

Conflict of interest The author declares no conflict of interest.

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