SPIR LEARNING BRIEF 9 NOVEMBER 2025

The effects of a secondary school scholarship on youth outcomes

Evidence from a randomized trial

Jessica Leight

Introduction

Although primary school enrollment has steadily increased in sub-Saharan Africa in recent years, enrollment in secondary school remains generally low in comparison with other regions (Evans and Mendez Acosta 2021). In Ethiopia, enrollment in lower secondary school roughly doubled over the past decade to reach an estimated 46 percent in 2021–2022, but substantial heterogeneity exists across rural and urban areas and across poorer and richer households (Tiruneh and Molla 2024). In rural areas, long distances from home to school often pose a substantial barrier to secondary school enrollment, especially for poor households. In addition to the real or perceived risks of insecurity linked to attendance – encountering insecure conditions along the route, or risks for youth who reside away from home to attend – these lengthy distances imply substantial out-of-pocket costs for transportation or accommodation, and households may struggle to manage these costs (Leight et al. 2022). Limited post-primary educational attainment can have substantial adverse effects for youth, limiting their opportunities for future employment and income generation and increasing the likelihood of early marriage for girls (Giacobino et al. 2024).

This project note reports the main findings from a randomized trial conducted in rural Ethiopia, which assessed the effects of a scholarship for lower secondary school students (ninth and tenth grade) targeting extremely poor youth. We find that the provision of a scholarship led to a 12-percentage-point increase in the probability of secondary school enrollment two years later compared to youth who did not receive a scholarship, an effect that was greatest among students who received early notification about the scholarship (one year before eligibility). There was no change in attendance or academic performance, suggesting that students in the treatment arm performed as well as those in the control arm. Some evidence also indicated a small decline in the likelihood of child marriage and an enhancement in youth well-being. Overall, the findings suggest that the scholarship may be a valuable intervention to increase secondary school attainment, particularly if announced earlier; however, a third of youth who

passed the primary school exam and were offered a scholarship still did not enroll. This suggests there are other important barriers to secondary school progression in this sample.

Experimental design

Overall context

This trial focused on a sample of youth living in households that are beneficiaries of the Productive Safety Net Program (PSNP) in rural Ethiopia. Launched in 2005, the PSNP is one of the largest safety net programs in sub-Saharan Africa and currently provides cash and/or food transfers to 8 million people in rural households annually as payment for labor on public works projects (Hoddinott and Mekasha 2020). The program targets approximately the poorest 15 percent of households in the most chronically food-insecure districts.

This trial was conducted in the context of Strengthen PSNP Institutions and Resilience II (SPIR II), a five-year program (2021–2026) funded by the U.S. government and led by World Vision in partnership with ORDA Ethiopia and CARE. SPIR II is implemented in vulnerable districts in the Amhara, Tigray, and Oromia regions of Ethiopia, supporting PSNP implementation and providing complementary livelihood, nutrition, mental health, social development, and resilience activities, including activities targeting youth. This study was implemented in Oromia and Amhara regions only.

Randomization and sample

This evaluation is a randomized controlled trial with randomization conducted at the subdistrict (*kebele*) level. The sample includes 116 subdistricts that were purposively selected for the trial and randomized in two phases: phase one was selected and randomized in January 2023 and phase two in March 2023. The subdistrict eligibility criteria required that the subdistrict be served by SPIR, have at least one primary school serving students in grades seven and eight, and not have a secondary school within its borders.[1] The reason for this final criterion was that youth who have a nearby secondary school typically face lower barriers to enrollment, given the reduced distance and associated costs. The final randomization included 56 subdistricts assigned to the control arm and 60 subdistricts assigned to the treatment arm.

Youth were eligible to enter the sample if they met two criteria: (1) they were a resident of a household participating in the PSNP, and (2) they were either enrolled in seventh or eighth grade at baseline, or had successfully graduated from eighth grade (passed the eighth grade exit exam in the prior year) but subsequently dropped out of school before, or shortly after, enrolling in secondary school. Eligible youth were identified using enrollment lists from local schools, household-level screening, and snowball sampling. Ultimately, 12 percent of the youth identified in school-level records were successfully screened and joined the sample.[2] The final sample included 2,141 youth: 1,116 were in kebeles assigned to the treatment arm, and 1,025 were assigned to the control arm. Of the eligible youth, 869 were enrolled in

[1] The sample was expanded after the baseline survey was launched in the phase one kebeles and the process of identifying eligible youth highlighted that the eligible sample per subdistrict was smaller than previously anticipated.
[2] This pattern is broadly consistent with the fact that PSNP beneficiaries typically constitute around 15 percent of the population; furthermore, the additional criteria imposed for the sample of PSNP primary school graduates required that only those youth who graduated from primary school but then dropped out were eligible for enrollment into the sample.

grade seven (40 percent of the total), 858 were enrolled in grade eight (40 percent), and 414 had dropped out after eighth grade (19 percent).

Intervention

The intervention was a $300 scholarship per year ($150 per semester) for youth who enrolled in secondary school in fall 2023 or fall 2024. The grant was available to eligible students for one or two years, generally corresponding to grades nine and ten (those enrolled in the scholarship program in seventh grade at baseline were eligible for only one year of scholarship in the study period).[3] Students in treatment subdistricts were initially informed of their eligibility for the scholarship immediately following the baseline survey: given this timing, the eighth grade cohort was informed around three months prior to the primary school leaving exam, while the seventh grade cohort had more than a year's advanced notice of scholarship availability. The scholarship was payable to adult caregivers of selected students by the SPIR II project in two annual payments, conditional on enrollment as verified by SPIR II staff. Once disbursed, the payment could be used for any expenses identified by the household, including but not limited to accommodation for their secondary school students at a location proximate to the school; travel expenses associated with commuting to school; or any educational or non-educational expenses.

Data collection

Data were collected from enrolled youth and, if possible, their parents at baseline (February–March 2023) and in a follow-up survey conducted about 28 months later (June–July 2025).[4] The surveys included modules on educational progression, engagement in economic activities, marriage and family, non-cognitive skills, and educational aspirations. In the follow-up survey, the survey team also extensively tracked youth who had migrated to urban areas within the sample regions or to Addis Ababa. Surveys were conducted with 2,005 youth at follow-up, yielding an attrition rate of only 6 percent. At both baseline and follow-up, informed consent was obtained from parents of minor youth, followed by assent from the youth; youth who were older than 18 provided consent directly. (Due to considerable variation in grade progression in rural Ethiopia, some youth even in grades seven and eight can be can be much older than the target age.)

This trial received ethical approval from the Institutional Review Board at IFPRI and the Ethiopian Society of Sociologists, Social Workers, and Anthropologists (ESSSWA). It was also preregistered on the American Economic Association's trial registry, and the prespecified primary outcome was enrollment in secondary school.[5] This research note reports on findings for the registered primary and secondary outcomes.

[3] The original intention was to extend the program by one year to accommodate another scholarship year for the seventh grade enrollees, but this became impossible due to disrupted USAID funding. At baseline, there were also a small number of dropout students who had already completed ninth grade and thus who could have used the scholarship to complete tenth and eleventh grade.
[4] The original objective was to conduct the follow-up survey in fall 2025 to enable tracking youth through the start of the new school year (beginning in September). However, the survey was advanced due to the risk of funding termination at the end of the fiscal year.
[5] The trial ID is AEARCTR-0010951.

Overview of empirical findings

Baseline characteristics and balance

Table 1 shows the baseline characteristics of the youth surveyed across treatment arms. The average age of sampled youth was nearly 16 years, and 45 percent were girls. Among those currently enrolled in seventh or eighth grade, all expected to participate in the primary school exit exam. Those enrolled in seventh and eighth grade reported attending school around 4.2 days out of the last 5 days in which their school was open for classes, but they commuted nearly 60 minutes to reach the school. In terms of their socioeconomic status, 75 percent of sample households reported experiencing moderate or severe food insecurity, according to the Food Insecurity Experience Scale. Around two-thirds of youth reported being engaged in assisting with a household farm or livestock activity, but fewer than 10 percent reported any engagement in a nonagricultural business or in work outside the family. The hypothesis that the sample characteristics are parallel across the treatment and control arms cannot be rejected for all covariates examined, suggesting that the randomization was effective in achieving balance.

Table 1: Baseline characteristics

	N	Control mean	Treatment mean	Difference	p-value
Highest level of completed education	2,141	6.78	6.84	0.06	0.23
Currently attending school	2,141	0.79	0.79	0.00	0.94
Age	2,141	15.82	16.08	0.26	0.20
Gender	2,136	0.45	0.44	-0.01	0.81
Expecting to complete primary school (8th grade) exit exam	1,686	1.00	1.00	-0.00	0.15
Number of days of school attendance	1,686	4.23	4.34	0.12	0.32
Commuting time to school	1,624	60.11	57.24	-2.87	0.42
Knows someone who has completed secondary school	2,141	0.58	0.63	0.04	0.30
Has ever used the internet	2,054	0.06	0.08	0.02	0.35
Has helped with household farm/livestock in the past 7 days	2,141	0.64	0.62	-0.02	0.75
Has helped with nonfarm family business in the past 7 days	2,141	0.07	0.07	-0.01	0.67
Has completed any work outside the family in the past 7 days	2,141	0.09	0.09	0.00	0.86
Currently married and cohabiting with spouse	2,141	0.04	0.04	-0.00	0.72
Household size	2,133	5.77	6.01	0.24	0.29
Owns land	2,132	0.95	0.96	0.01	0.58
Number of assets owned	2,133	2.89	2.94	0.05	0.61
Number of livestock owned	2,133	2.59	2.65	0.06	0.70
Moderately or severely food insecure	2,133	0.75	0.74	-0.01	0.82

Number of shocks experienced (past year)	2,133	3.29	3.24	-0.05	0.64

Source: SPIR II youth evaluation endline survey

Experimental effects: School enrollment

Table 2 shows the effects of the scholarship on the probability of enrolling in secondary school, two years after baseline. The effect for the full sample is reported in Column 1, followed by the estimated effects for regional subsamples in Amhara and Oromia in Columns 2 and 3, respectively, and by the estimated effects for the three baseline subsamples defined by enrollment in seventh or eighth grade, or as a dropout at baseline in Columns 4 through 6, respectively. The overall effect is an increase of 12 percentage points in enrollment probability relative to a mean in the control arm of about one-third, or a proportional increase of around 36 percent. The overall secondary school enrollment rate in the treatment arm is thus 46%. This is consistent across regions, a pattern that is arguably somewhat surprising given the insecurity (and associated school closures) prevalent in Amhara during the study period.[6] (If we restrict the estimated treatment effect to baseline seventh and eighth grade students who subsequently passed the primary school exit exam – an outcome that itself shifts as a result of treatment, as described below – the effect of the scholarship is an increase of 17 percentage points in the probability of enrollment, for an enrollment probability in the treatment arm of 66%.)

Table 2. Secondary school enrollment

	Full sample	Amhara	Oromia	Baseline 7th graders	Baseline 8th graders	Baseline drop-outs
Treatment effect	0.120***	0.127**	0.106**	0.170***	0.091*	0.085**
	(0.034)	(0.054)	(0.042)	(0.045)	(0.046)	(0.041)
Control mean	0.337	0.359	0.315	0.441	0.355	0.067
N	2,005	995	1,010	805	820	380

Source: SPIR II youth evaluation endline survey

However, the varying enrollment patterns across the various baseline subsamples are notably different. In absolute terms, the effect on enrollment is nearly double the magnitude (17 percentage points) for youth enrolled in seventh grade at baseline compared to youth enrolled in eighth grade or as dropouts (8–9 percentage points). This pattern suggests that the scholarship was more effective for youth who received more than a year's notice of its availability, though it is also possible that the larger effect simply reflects the fact that enrollment in secondary school secularly declines over time (for example, due to poor school performance among some students, disappointment with school quality, or an escalating level of responsibility at home). Consistent with this hypothesis, the probability of enrollment is also higher in the control arm at follow-up for baseline seventh graders who would be in ninth grade at follow-up (44 percent), compared to baseline eighth graders who would be in tenth grade at follow-up

[6] Recent estimates from the United Nations suggest that more than 4,000 schools have been closed due to conflict in Amhara: https://www.hrw.org/world-report/2025/country-chapters/ethiopia/

(35 percent). In relative terms, however, the effect on enrollment is by far largest for the dropout sample: only 7 percent of baseline dropouts were enrolled in school at follow-up, and thus the treatment effect of 8.5 percentage points implies this rate has more than doubled.

Experimental effects: Other outcomes

Table 3 shows the experimental effects on other outcomes, all prespecified as secondary outcomes. Column 1 reports the experimental effect on the probability of passing the primary school exit exam, which was estimated only for youth who were in seventh and eighth grade at baseline (the dropout sample had, by definition, already passed the exam). A substantial positive effect of 9 percentage points was observed, relative to a mean of slightly more than half in the control arm. This effect alone would account for about two-thirds of the effect on enrollment reported for seventh and eighth graders. The substantial positive effect on passing the exam is also consistent with the larger effect for seventh graders, and it suggests that some youth (and/or some parents, teachers or schools) may be exerting less effort to graduate from primary school because of the low probability of secondary school enrollment. Accordingly, early notification of the scholarship may lead them to increase their efforts, raising the probability of passing the exit exam.

Columns 2 and 3 report variables related to the intensive margin of school enrollment, average attendance in the prior week (for currently enrolled youth), and average grades in the last semester attended (for those who enrolled in secondary school at any point). The estimated coefficients are statistically insignificant, suggesting that students enrolling in secondary school in the treatment arm achieve levels of attendance and academic performance comparable to those in the control arm. Notably, while attendance rates are high in both groups, mean grades are low in both (50 for the control and 58 for the treatment arms). This poor performance aligns with national trends: over the last three years, only around 5% of secondary school students in Ethiopia passed the secondary school exit exam.[7]

There is also no statistically significant effect on the probability of earning any nonagricultural income, as reported in Column 4, though it is challenging to interpret this pattern in the short term while some youth are still in school.

Column 5 shows a decline in the probability of early marriage, estimated only for those youth who were not reported already married and cohabiting at baseline. Within this subsample, only 6 percent of youth in the control arm reported marrying before age 18 during this two-year period. This rate is 2 percentage points lower in the treatment arm, demonstrating a proportionally large decline of about one-third. However, the overall incidence of child marriage in this sample was already very low, a notable finding given recent estimates from the Demographic and Health Surveys that suggest much higher rates of up to 40 percent among broader samples of adult Ethiopian women (Erulkar 2022). Even in extremely poor PSNP households, the current rate of child marriage among youth seems to be much lower.[8]

Finally, Column 6 reports on the effects on the WHO-5 index, a well-being index. The findings suggest that the provision of a scholarship is associated with a weak increase in well-being, but it is not very large (4 percent relative to the mean in the control arm) and only weakly statistically significant.

[7] See for example: https://www.addisinsight.net/2025/09/16/why-ethiopia-has-africas-lowest-national-exam-pass-rate/
[8] This sample is not nationally representative and, in particular, may not be informative about the lowlands regions.

Table 3: Other outcomes

	Passed primary school exit exam	Percent days attended (past week)	Mean grade (most recent semester)	Any nonagricultural income	Early marriage	WHO-5 score (out of 25)
Treatment effect	0.085**	-0.392	0.857	-0.005	-0.019**	0.411*
	(0.037)	(0.919)	(4.682)	(0.018)	(0.010)	(0.216)
Control mean	0.549	97.161	49.679	0.111	0.056	9.821
N	1,728	745	946	2,005	1,927	2,005

Source: SPIR II youth evaluation endline survey

Conclusion

Our findings suggest that a secondary school scholarship offered to poor youth in rural Ethiopia has significant positive effects on enrollment (an increase of 12 percentage points): this effect was greater among students offered the scholarship in seventh grade, and it seems to be substantially driven by the increased probability of passing the primary school exit exam. In conjunction with the increase in enrollment, we observed a decline in the already low probability of early marriage and a weak increase in subjective well-being but no shift in (short-term) labor market outcomes. However, the rate of enrollment did not exceed 50 percent even in the treatment arm, a pattern partly driven by low passing rates on the primary school exit exam. More broadly, the findings suggest that significant barriers to school enrollment remain in an environment characterized by relatively low school quality, limited opportunities outside of agriculture, and intensifying conflict-related shocks.

ABOUT THE AUTHOR

Jessica Leight is a Senior Research Fellow in the Poverty, Gender, and Inclusion Unit of the International Food Policy Research Institute (IFPRI). She holds a PhD in Economics and works on a wide range of topics, including poverty, social protection, agriculture, and gender.

ACKNOWLEDGMENTS

We would like to thank the SPIR II team for their tireless collaboration in this trial, particularly Michael Mulford, Sarah Hurlburt, and Henok Metaferia. We acknowledge Haleluya Tesfaye and Sarim Zafar for research assistance.

This publication was produced by IFPRI in collaboration with World Vision under the SPIR II Program, Cooperative Agreement Number 720BHA21CA00036-IFPRI, funded by the U.S. government. This project was also supported by the Policy Innovations Science Program of the CGIAR. The contents are the responsibility of IFPRI and do not necessarily reflect the United States government. This publication has been prepared as an output of SPIR II and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI.

REFERENCES

Erulkar, A. 2022. "Changes in the Prevalence of Child Marriage in Ethiopia, 2005–2016." *Reproductive Health* 19 (1): 195.

Evans, D. K., and A.M. Acosta. "Education in Africa: What are we learning?." *Journal of African Economies* 30, no. 1 (2021): 13-54.

Giacobino, H., E. Huillery, B. Michel, and M. Sage. 2024. "Schoolgirls, Not Brides: Education as a Shield Against Child Marriage." *American Economic Journal: Applied Economics* 16 (4): 109–143.

Hoddinott, J., and T.J. Mekasha. 2020. "Social Protection, Household Size, and Its Determinants: Evidence from Ethiopia." *The Journal of Development Studies* 56 (10): 1818–37. https://doi.org/10.1080/00220388.2020.1736283.

Leight, J., H. Alderman, D.O. Gilligan, M. Hidrobo, M. Mulford, and A. Nemera. 2022. *Barriers to Enrollment in Secondary School in Ethiopia: A Formative Qualitative Investigation: Evidence from SPIR II.* SPIR Learning Brief 6. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.136495.

Tiruneh, D.T., and T. Molla. 2024. "Spotlight on Ethiopia's Secondary Education Challenges." https://www.ukfiet.org/2024/spotlight-on-ethiopias-secondary-education-challenges/. Published May 1, 2024; retrieved October 31, 2024.

Funding for this work was provided by the U.S. government. This publication has been prepared as an output of SPIR II and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

IFPRI is a CGIAR Research Center

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info