BATTLING RISING GENDER GAPS IN EDUCATION:
USING BEHAVIORAL SCIENCE TO ENCOURAGE UGANDAN CAREGIVERS TO SEND GIRLS TO SCHOOL POST-PANDEMIC

UWEZO UGANDA PROJECT BRIEF | OCTOBER 2022

Summary

Prior to the COVID-19 pandemic, about 260 million children, adolescents, and youth were out of school, representing one-sixth of the global population of this age group. Despite progress to achieve gender parity in access to education, large inequalities remain; in sub-Saharan Africa, for example, pre-pandemic estimates indicated that for every 100 boys out of school, there were 123 girls denied the right to education. Entrenched inequities in education have only worsened during the pandemic. It is now estimated that 11 million girls might not return to school, with girls aged 12-17 at particular risk of dropping out in low- and lower-middle-income countries.

Uwezo Uganda is a non-profit organization that tracks Ugandan children's learning levels and enrollment in school. Each year, they visit thousands of households across the country to assess the literacy and numeracy levels of children aged 4-16. Uwezo's 2021 national learning assessment was conducted in August 2021, while schools were closed due to COVID-19. To combat the pandemic's deleterious effects on children's learning and rising gender gaps in education, ideas42 partnered with Uwezo Uganda to deliver an intervention during the 2021 assessment to children's caregivers, encouraging them to (re)enroll their children, particularly girls, in school once they reopened after COVID-19-related closures.

Designing the Intervention

What might prevent caregivers from sending their daughters and sons to school after reopening? To answer this question, ideas42 conducted in-depth interviews and focus groups with Uwezo Uganda staff members, volunteers, and partners. From this qualitative research, we identified two key behavioral barriers that could stand in the way of children, especially girls, returning to school.

1. SOCIAL NORMS: Caregivers may believe that it is not common to send girls to school. In Uganda, girls may be married or become pregnant at a young age, the rates of which have increased during the pandemic. For these reasons, as well as others, caregivers may not prioritize that their daughters receive an education.

2. PRESENT BIAS: Caregivers may focus on the short-term benefits of having their children, especially girls, help out at home or contribute to household income by working. They may not be aware of, or think about, the long-term benefits afforded by an education. This barrier has likely been exacerbated during COVID-19, due to the economic challenges that families are facing.

We then collaborated with Uwezo Uganda to design a randomized controlled trial with the objective of testing solutions to address these barriers. In August 2021, enumerators delivered Uwezo's learning assessment in over 5,000 households across 29 districts in Uganda. Stratified randomization at the district level was conducted to divide the sample into three randomized groups, two treatment and one control:

- **Treatment 1:** At the end of the assessment, the enumerator read the caregiver(s) in the household a message to address the **social norms** barrier, highlighting the actions of Ugandan parents who send their children to school and ensure their daughters complete their education. The enumerator also handed the caregiver(s) a "certificate of planned completion" per child in the household for the caregiver(s) to complete and sign, to enhance their commitment to their children completing their education (see **Appendix A**).
- **Treatment 2:** At the end of the assessment, the enumerator read the caregiver(s) in the household a message to address **present bias**, emphasizing the financial benefits to the families of children, especially girls, who complete their education. The enumerator also handed the caregiver(s) an "education commitment" form to complete and sign, which prompted them to make an enhanced active choice about whether they would send their children back to school (see **Appendix B**).
- **Control:** Received no message or leave-behind material at the end of the assessment.

Intervention Results

Schools in Uganda reopened in January 2022. In May, once the first school term of 2022 had ended, ideas42 and Uwezo Uganda tested the effect of our intervention on children's enrollment in school after COVID-19-related closures by surveying 211 schools across 15 districts (i.e., 5 districts from each randomized group). Figure 1 compares the reported total number of children enrolled in each school in March 2020 (before COVID-19 lockdown) to the first school term of 2022 (after schools reopened).

Figure 1: Total number of children enrolled before COVID-19 lockdown and after school reopening by randomized group
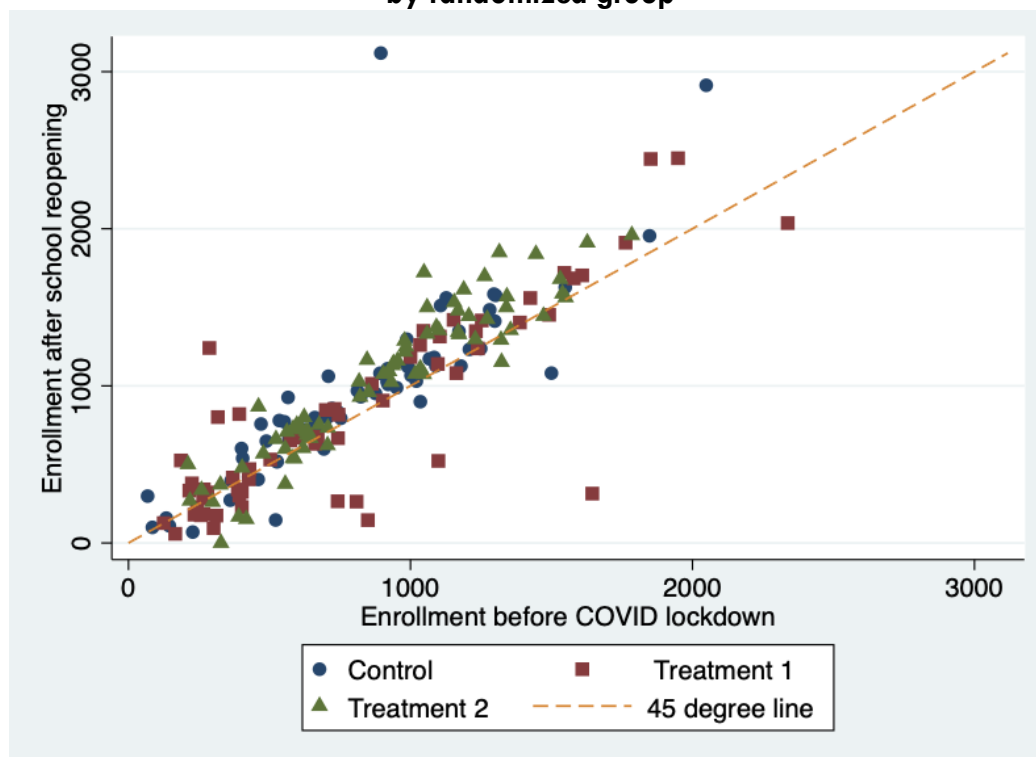

Fig. 1. On the x-axis is the total enrollment number before COVID-19 lockdown and on the y-axis is the total enrollment number after school reopening. The 45-degree line represents the points at which enrollment before COVID-19 lockdown and after school reopening are equal. Schools that fall above the 45-degree line experienced an increase in enrollment, while schools that fall below the 45-degree line experienced a decrease.

In general, many of the schools experienced an increase in the total number of children enrolled between this period. On average, schools in districts belonging to the control group increased their total enrollment by 2.5%. Schools in districts belonging to the treatment groups experienced an estimated 9.5% increase in enrollment, about 2.8 times more than schools in the control group (see **Appendix C**). Similar results are found for the number of girls enrolled between this period. Schools in districts belonging to the control group saw an increase in girls' enrollment of 3.3%, while schools in districts belonging to the treatment groups experienced an estimated increase of 9% in girls' enrollment (see **Appendix D**).

Although these results are not statistically significant, in large part due to the small sample size of schools that were surveyed, the magnitude of these treatment effects are large. This suggests that the intervention was indeed effective in motivating caregivers to (re)enroll their children, including their daughters, in school after reopening. Further, when we compare the effects of the two treatment groups, we find suggestive (although not statistically significant) evidence that Treatment 2, which addressed the behavioral barrier of present bias, was more effective in impacting caregivers' behavior than Treatment 1, which addressed the behavioral barrier of social norms. Specifically, schools in districts belonging to the second treatment group experienced an additional 5.1 percentage point increase in total enrollment, as compared to schools in districts belonging to the first treatment group. The treatments did not differ in their effect on girls' enrollment, however.

Takeaways

We find promising results that the intervention, which incorporated behaviorally-designed messaging and leave-behind materials into Uwezo Uganda's 2021 national learning assessment, was effective in motivating caregivers to (re)enroll their children, including their daughters, in school after reopening post-pandemic. Notably, the behavioral intervention was extremely low-cost, requiring only some additional training of the enumerators to deliver the intervention and the printing of the leave-behind materials. As such, we would recommend that Uwezo Uganda incorporates a similar intervention into their learning assessment every year, and that organizations conducting similar assessments in other low- and middle-income countries do so as well. Overall, this study suggests that behavioral interventions can be a cost-effective way to impact caregivers' beliefs about the importance of their children's education and can help battle the pandemic's deleterious effects on learning, particularly that of girls.

Appendix

Appendix A

Treatment 1 Message

"In Uganda, more than 8 out of 10 parents are sending their young children to school. And, almost half of all students are girls. Each year, more than 100,000 students graduate from secondary school or start their tertiary education. Don't let your daughters and sons be left behind!"

Treatment 1 Leave-Behind Material

Certificate of Planned Completion

This certifies that

_____

intends to complete their education to build a better future for themselves and their family.

Recognising the long-term benefits of education, we commit to support our child's course of education.

_____   _____

Parent   Date

Appendix B

Treatment 2 Message

"Children who complete their education are empowered to support their families. This is especially true for girls. Girls who complete their secondary education make twice as much money on average, with those completing their tertiary education earning even more. Overall, completing education is much more profitable than dropping out of school for reasons such as taking a short-term job or getting married early."

Treatment 2 Leave-Behind Material

EDUCATION COMMITMENT

Dear Parent(s)/Guardian(s),

Children who complete their education are empowered to support their families.

This is especially true for girls. Girls who complete their secondary education make **twice as much money on average** as those who do not, with those completing their tertiary education earning even more.

Overall, completing education is much more profitable than dropping out of school for reasons like taking a short-term job or getting married early.

Signed: _____ **Uwezo Uganda Volunteer**

Please make a selection about sending your children back to school:

Yes, I am going to send my daughters and sons back to school.	**No,** I am not going to send my daughters and sons back to school.
This will allow them and my family to be financially successful in the long run.	I know this may mean less financial success in the long run.

Parent signature: _____

Date: _____

Table 1: Regression results showing the effect of treatment on the percent change in total number of children enrolled in school

	(1)	(2)	(3)	(4)
Treatment variables				
Pooled treatment	0.113	0.070		
	(0.070)	(0.097)		
Treatment 1 vs control			0.041	
			(0.126)	
Treatment 2 vs control			0.092	
			(0.106)	
Treatment 2 vs treatment 1				0.051
				(0.112)
Control variables				
Private school dummy		-0.314***	-0.302**	-0.302**
		(0.100)	(0.110)	(0.110)
Community school dummy		-0.401***	-0.387***	-0.387***
		(0.101)	(0.119)	(0.119)
Municipalities/Urban/Peri dummy		-0.056	-0.055	-0.055
		(0.087)	(0.091)	(0.091)
Town council/Rural dummy		0.033	0.047	0.047
		(0.104)	(0.102)	(0.102)
Baseline children enrollment (in hundreds)		-0.029**	-0.029**	-0.029**
		(0.011)	(0.011)	(0.011)
Ratio of students to teachers (in hundreds)		0.046	0.031	0.031
		(0.154)	(0.155)	(0.155)
Proportion of female teachers		-0.319*	-0.313*	-0.313*
		(0.155)	(0.157)	(0.157)
Constant	0.025	0.474**	0.471**	0.511*
	(0.050)	(0.180)	(0.181)	(0.261)
Observations	195	194	194	194
R-squared value	0.013	0.114	0.115	0.115
Clustered standard errors	YES	YES	YES	YES
School controls		YES	YES	YES

Table 1. Standard errors are clustered at the district level and are reported in parentheses (*p<0.1, **p<0.05, ***p<0.01).

Appendix D

Table 2: Regression results showing the effect of treatment on the percent change in number of girls enrolled in school

	(1)	(2)	(3)	(4)
Treatment variables				
Pooled treatment	0.099	0.057		
	(0.071)	(0.103)		
Treatment 1 vs control			0.057	
			(0.140)	
Treatment 2 vs control			0.057	
			(0.102)	
Treatment 2 vs treatment 1				0.001
				(0.124)
Control variables				
Private school dummy		-0.259**	-0.258*	-0.258*
		(0.107)	(0.122)	(0.122)
Community school dummy		-0.381***	-0.381***	-0.381***
		(0.101)	(0.124)	(0.124)
Municipalities/Urban/Peri dummy		-0.051	-0.051	-0.051
		(0.096)	(0.097)	(0.097)
Town council/Rural dummy		0.050	0.050	0.050
		(0.118)	(0.114)	(0.114)
Baseline children enrollment (in hundreds)		-0.071***	-0.071***	-0.071***
		(0.022)	(0.023)	(0.023)
Ratio of students to teachers (in hundreds)		0.044	0.044	0.044
		(0.195)	(0.189)	(0.189)
Proportion of female teachers		-0.299*	-0.299*	-0.299*
		(0.158)	(0.161)	(0.161)
Constant	0.033	0.508**	0.508**	0.565*
	(0.053)	(0.195)	(0.200)	(0.299)
Observations	195	194	194	194
R-squared	0.010	0.111	0.111	0.111
Cluster SE	YES	YES	YES	YES
School Controls		YES	YES	YES

Table 2. Standard errors are clustered at the district level and are reported in parentheses (*p<0.1, **p<0.05, ***p<0.01).