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Abstract

Background: Saving plays a crucial role in the process of economic growth. However, one main reason why poor people often do not save is that they lack financial knowledge. Improving the savings culture of children through financial education is a promising way to develop savings attitudes and behavior early in life. **Objectives:** This study is one of the first that examines the effects of social and financial education training and a children's club developed by Aflatoun on savings attitudes and behavior among primary school children in Uganda, besides Berry, Karlan, and Pradhan. **Research design:** A randomized phase in approach was used by

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randomizing the order in which schools implemented the program (school-level randomization). The treatment group consisted of students in schools where the program was implemented, while in the control group the program was not yet implemented. The program lasted 3 months including 16 hours. We compared posttreatment variables for the treatment and control group. **Subjects:** Study participants included 1,746 students, of which 936 students were from 22 schools that were randomly assigned to receive the program between May and July 2011; the remaining 810 students attended 22 schools that did not implement the program during the study period. **Measures:** Indicators for children's savings attitudes and behavior were key outcomes. **Results:** The intervention increased awareness of money, money recording, and savings attitudes. It also provides some evidence—although less robust—that the intervention increased actual savings. **Conclusions:** A short financial literacy and social training can improve savings attitudes and behavior of children considerably.

Keywords

social and financial education, financial literacy, training, intervention, children, attitudes, saving and spending

A growing literature emphasizes the crucial role of savings in the process of economic growth. Savings provide lump sums for investments and enable households to build up a financial safety net and hence may serve as an insurance mechanism (e.g., Dupas & Robinson, 2013; Hulme, Moore, & Barrientos, 2009). Karlan and Appel (2011) even argue that (micro) savings products are probably one of the best financial instruments to reduce poverty. There is also growing evidence that poor people are in principle able and willing to save. However, for several reasons, among which a lack of financial knowledge, savings remain limited. In order to improve savings behavior, there is, therefore, a strong need to encourage a better savings culture. According to many, it is especially important to improve the savings culture of young people and thus to develop savings attitudes at a young age (e.g., De Noose, 2011). One of the main instruments to improve savings attitudes of young people is financial education. By means of financial education—financial literacy trainings—children should get acquainted to the concept of savings and learn at an early age how to manage money in- and outflows. The aim of the current research is to examine the impact of a combined social and financial education program on savings attitudes and behavior of a group of Ugandan school children.

Financial Literacy

Financial literacy has recently received considerable attention among researchers, as it is one of the main factors contributing to economic growth and development (World Bank, 2009). Several studies indicate positive effects of financial literacy on savings behavior. More precisely, individuals with higher financial knowledge are more likely to engage in financial products and services, cash flows management, saving, and investment (Hogarth, Beverly, & Hilgert, 2003; Hogarth & Hilgert, 2002). Other research suggests that people who participated in a financial curriculum in high school improved their savings behavior and showed higher net worth as adults (e.g., Bernheim, Garrett, & Maki, 2001). In addition, several studies provide clear evidence that financial literacy has positive effects on savings behavior of adults (Fry, Mihajilo, Russell, & Brooks, 2008; Meier & Sprenger, 2008, 2009; Schreiner & Sherraden, 2007). Yet some studies suggest that financial education does not improve financial literacy (Mandell, 2009a, 2009b; Mandell & Klein, 2007).

There is ample literature on the impact of financial literacy on savings behavior of adults in developed countries and more recently also in developing countries (e.g., Cole & Fernando, 2008; Rasul et al., 2010). Only more recently, scholars have started also studying savings behavior among children and adolescents in developed countries (Furnham, 1999; Lührmann, Serra-Garcia, & Winter, 2012; Otto, Schots, Westerman, & Webley, 2006; Sherraden, Johnson, Guo, & Elliott, 2009). Moreover, different organizations have started to develop financial literacy programs that target children and youth (for an overview, see Xu & Zia, 2012). Yet, studies on the effect of financial literacy on savings behavior of children and young adults in developing countries are still scarce.

There are four recent studies on the impact of financial literacy trainings worth mentioning. Bruhn, de Souza Leao, Legovini, Marchetti, and Zia (2013) test a financial literacy program using a randomized control trial among 868 schools with approximately 20,000 high school students between the age of 15 and 17 in Brazil. The program was integrated in the normal classroom curriculum and lasted 17 months. Results showed positive impacts such as increased financial knowledge, increased savings for purchases, better financial planning, as well as greater participation in household financial decisions by students. Furthermore, Jamison, Karlan, and Zinman (2014) focused on 240 youth clubs in Uganda. The aim of this study was to systematically assess, by using a randomized controlled trial, whether financial education, access to cheap group savings accounts, or both would increase financial knowledge and savings behavior. Whereas

administrative data showed that education plus account treatment increased banks savings relative to the account-only treatment, survey data showed roughly the same increase in savings and earned income across treatment arms. Moreover, Karlan and Linden (2014) compared the impact of a cash treatment, a voucher treatment for educational expenses and a parent outreach program within 136 primary schools in Uganda including 3,838 students who participated in baseline and end line. Most importantly, results showed that the cash treatment (weaker commitment) combined with a parent outreach program increased savings in the program account.

Finally, Berry et al. (2015) evaluated a program by Aflatoun in Ghana. They conducted a randomized controlled trial among 5,363 children between 9 and 14 years. They compared three groups: children who received a social and financial literacy program developed by Aflatoun, children who received the Honest Money Box (HMB) program,¹ which only focused on the financial part of the Aflatoun program, and children who did not receive any program. The results indicate that 9 months later, both programs had a positive impact on savings behavior of students, mostly because students shifted their savings from home to school, but not on savings attitudes compared to the control group. Important to note, this and the current study both evaluated a program developed by Aflatoun. However, these two studies differ in three important aspects. First, the program evaluated by Berry and colleagues (2015) included an additional component, an after-school savings club that provided students with a locked money box. After students had completed the program, they continued to deposit and withdraw their savings in the savings club. In the current study, students did not have a locked money box, they only had a children's club. Second, the reported programs differed in their length. The social and financial program reported by Berry and colleagues (2015) lasted around 24 hours, whereas the program in this article was shorter and lasted around 16 hours. Also important to note, Berry and colleagues (2015) compared this to the HMB program which only focused on the financial part of the Aflatoun program and a control group. This HMB program began with eight 1-hour sessions structured by a teacher to setup school clubs. Third, the study by Berry et al. (2015) was conducted in Ghana and the current one in Uganda. Thus, the here reported program was a shorter version which only focused on the impact of the social and financial curriculum (no saving activities with a locked money box) compared to the Berry et al. (2015) study in another nation.

For our study, especially the first and the last studies summarized above are relevant, as they, in line with our study, test the impact of different financial literacy programs on children's savings attitudes and behavior. Both studies

point at positive impacts of the program. Yet, the external validity of their results remains uncertain. Our study aims to provide additional evidence on the possible importance of financial literacy programs for children by focusing on a short program in another nation. Hence our study aims to further test the external validity of the positive impacts of these programs found before.

The Current Intervention

To date, one of the few financial literacy programs for children in developing countries has been developed by Aflatoun (Aflatoun, n.d.). Aflatoun is a large, international nongovernmental organization (NGO) that has developed financial literacy trainings as school-based curricula for different age-groups in 94 countries around the world. It provides these curricula to local partners such as NGOs or ministries of education. Aflatoun also gives technical assistance to implement the programs. Aflatoun's program consists of a package of financial literacy training, a school savings club, and training in social skills (Aflatoun, 2011). This study reports an evaluation of the program among children in Uganda. In Uganda, Innovations for Poverty Action and Private Education Development Network (PEDN), Aflatoun's local implementation partner, worked together for building capacity within PEDN's monitoring and evaluation team (see Aflatoun, 2012; see action plan PEDN, 2014). In this project, PEDN implemented the Aflatoun program in Ugandan primary schools with funding from Citi Foundation.

The Theory of Change of the Aflatoun Program

The main goal of the Aflatoun program is to improve children's savings (and spending) attitudes and behavior. The main envisioned outcome is more positive attitude about saving. The program also tries to change actual savings behavior. We first explain how teachers have been trained and next describe the theory of change.

The program is implemented by teachers. Teachers are intensively trained to familiarize them with the program. PEDN organized a teacher training on February 11, 2011. The training included an introduction on saving, entrepreneurship skills for children, and financial education. It also contained a discussion about the teaching techniques to be used in the classroom to engage students, the handling of the activity book, and an introduction on the saving process to be practiced in the program. Additionally, a short study was conducted among the teachers to test their knowledge and attitudes toward children (for details, see Aflatoun, 2012, 2014).

In the current study, the Aflatoun program was implemented as part of the formal primary curriculum. The program consists of one workbook designed for each grade. During the intervention period of 3 months, the curriculum was taught. It included 1 hour of teaching (based on the book) and 1 hour of activities (saving and enterprises development) per week. In total, the program comprised 16 hours. The curriculum consists of five core elements: personal understanding and education, rights and responsibilities, saving and spending, planning and budgeting, and social and financial enterprise (e.g., Aflatoun, 2009, 2014). The program includes interactive methodologies that engage children in their learning process by using songs, work sheets, games, and other exercises that are related to social and financial issues. Additionally, children democratically form a children's club (Aflatoun, 2009, 2010). The purpose of a children's club is to encourage children to work together, be able to manage their own savings, and be able to start up small business and community improvement activities. The theory of change of the current intervention in Uganda was that teachers were trained to apply and implement the Aflatoun program in school. By engaging children in different interactive learning methodologies, they should learn more about financial issues and, in turn, develop more positive attitudes and behavior toward saving and spending.

In Uganda, money is normally managed by the household head. Thus, it is crucial to start teaching financial skills at early age, so that children can develop this skill. The current research takes up the challenge by systematically examining whether financial and social education improves savings attitudes and behavior of children.

Method

Evaluation Design

In order to improve power of the study, PEDN conducted a stratified randomization. First, the sample was divided over two districts, namely, Kampala and Wakiso, and next per district a phase in randomization was conducted among 44 schools. More precisely, the order in which schools implement the Aflatoun program was randomized (randomization at the school level). In this study, the treatment group included students in 22 schools where the Aflatoun program had been implemented, while the control group consisted of students in 22 schools where the Aflatoun program had not yet been implemented but would be implemented later. Thirty-three schools were located in Kampala district and 11 schools in Wakiso district (see Table 1 for further details).

The sample consisted of 1,746 students who attended Grades 5 and 6. They were randomly selected for the study. Of these students, 936 students were

Table 1. Overview School Allocation Stratified by District.

Condition	<i>N</i>	<i>n</i> , District	<i>n</i> , School Status
Treatment schools	22	16 In Kampala	14 Private
			2 Governmental
		6 In Wakiso	4 Private
Control schools	22	17 In Kampala	2 Governmental
			9 Private
		5 In Wakiso	8 Governmental
			3 Private
			2 Governmental

Note. The table above presents overview of school allocation stratified by district. To both the treatment and the control schools, 22 schools were equally distributed. From 22 schools distributed to the treatment pool, 16 schools are in Kampala and 6 schools are in Wakiso. From 22 schools in the control pool, 17 schools are in Kampala and 5 schools are in Wakiso.

from 22 schools that were randomly assigned to receive the program between May and July 2011 (randomization at the schools level). The remaining 810 students attended 1 of the 22 schools that did not implement the program during the study period (for similar strategy, see St. Pierre & Rossi, 2006). Children were on average 12.5 years old (standard deviation [*SD*] = 1.46) and attended Grades 5 and 6. The Aflatoun program lasted 3 months and included each week 1 hr of teaching (based on the book) and 1 hour activities (saving and enterprises development). The materials were adjusted to the Ugandan school context. In total, students were officially involved for 16 hours in the intervention. The impact analysis was conducted by comparing posttreatment variables for the treatment and control groups. No baseline data were available.

Procedure and Measures

The school year in Uganda consists of three terms. Each school term lasts around 3 months. The first term was used to pilot the study. In the second term the intervention was conducted, data collection happened at the end of second term in both treatment and control schools. Finally, in the third term, all control schools eventually received the intervention. Three surveys were conducted at the end of the second term: a children survey, a teacher survey, and an observation checklist. This study focusses on the children survey. The same questionnaire was used for the control group and the treatment group. Children were individually interviewed by native speakers and asked to respond to 41 questions about their personal attitudes and behavior. Enumerators were trained to conduct the interviews. All of them were

working for the PEDN and mentioned that the purpose of the study is to learn more about children's understanding of responsibilities, teaching, money, and finances in Uganda. No relation to the new curriculum was mentioned. Furthermore, the questionnaire included relevant and irrelevant questions (such as "Rice is the best food in the world") in order to somehow hide the true aim of the study. The indicators were ordinal variables ranging from 1 for *strongly agree* to 4 for *strongly disagree*.

Data: Outcome Variables and Controls

The aim of the study is to test the impact of the program on savings attitudes and behavior. From the survey, we used answers to seven questions to obtain relevant outcome variables. More specifically, we investigated (1) awareness of money on hands (Q6 Awaremoney), (2) money recording behavior by keeping record of how much money on hands (Q8 Recordmoney), (3) spending behavior by spending money today (Q20 Spendquickly), (4) attitude toward spending money today rather than saving for the future use (Q21 Betterspend), (5) whether students save or not (Q27 Saving Yes/No), (6) saving amount (Q29 SavingAmount), and (7): saving behavior by putting money away for saving every time having money on hands (Q36 Everytime). Please refer to the questionnaire in Appendix.

First, we rescaled the answers to Q6, Q8, Q20, Q21, and Q36 such that higher values indicate a stronger agreement with each statement. Second, based on the five ordinal savings attitudes questions, we also constructed five binary savings attitudes outcome variables (Q6 Awaremoneyd, Q8 Recordmoneyd, Q20 Spendquicklyd, Q21 Betterspendd, and Q36 Everytimed) with a 1 if the answer was *strongly agree* and a 0 *otherwise*. Third, we constructed an index *Savings attitudes* based on these five savings and spending attitudes questions. The method to construct the index followed Anderson's (2008) study. The approach works as follows: (1) code all variables such that a positive change implies either better or worse for all variables. In our case, we recoded two variables such that in all cases, an increase implies higher savings attitudes, (2) use the mean and variance of the control group for standardization, (3) assign each outcome variable to the index, and (4) construct the summary index variable by taking a weighted average of each of the outcome variables in the index. The weights are equivalent to the inverse of the covariance matrix of the standardized outcomes for each group. This method ensures that the control group has mean 0 and *SD* 1.

Finally, to test the impact on savings behavior, we differentiate between the impact of the program on the intensive margin by using the binary

variable whether the respondent saves or not (Q27 Saving: Yes/No) and the extensive margin, using the amount of saving (Q29 SavingAmount).² In total, 22% of the students did not save any money, 27% in the control group 27% and 18% in the treatment group. Since the amount of saving is highly skewed, we also used the log of the savings amount as outcome variable. In order to avoid losing many observations due to the nonexistence of a log of 0, we used two approaches: (1) we replaced 0s by .001 and (2) we took the inverse hyperbolic sine transformation (IHST) of the amount of sales IHST(-SavingAmount), defined as $\text{Log}(\text{salesamount} + (\text{salesamount}^2 + 1)^{0.5})$. Burbidge, Magee, and Robb (1988) advise to use the inverse hyperbolic sine transformation if data are skewed, as this distribution behaves like a logarithmic transformation but allows for zeros in the data. Table 2 presents descriptive statistics of all our outcome variables.

Our study lacks a baseline data set. Yet, we are still able to probe whether the randomization resulted in “comparable groups” by using variable that are unlikely to be affected by the program. The results are presented in Table 3. The table presents the results of a simple regression of the dummy variable sex (with one for female), age, answer to the question “rice is the best food in the world,” a dummy variable if a school is a private school (with one for a private school and zero for a public school), and the number of students who were sampled per class on a constant and the treatment dummy. Standard errors are based on cluster-robust standard errors using schools as the unit of clustering as the randomization was done at the school level. The constant in the regressions reflects the mean for the control group. The corresponding variables for the treatment group equal the constant plus the treatment coefficient. Table 3 shows that in none of the cases the treatment variable is significant, suggesting that our sample is balanced.

In addition, students were asked to indicate if they save money where they do it. Students had to choose one of the four options with their mother, at home, at school, and at a bank (see Q28 and Table 4). The majority of students indicated to keep their money at home (46.42% with their mother or in a kind of safe), and only 14.54% of the students indicated to keep their savings at bank. Important to note, the program did not offer any money boxes at school.

Identification Strategy

Owing to the randomized assignment process, the treatment and control children should in theory be statistically equivalent in terms of all observable and unobservable characteristics. Hence, in principle, all differences between the two groups should be due to the financial and social education treatment.

Table 2. Descriptive Statistics of all Dependent Variables.

Variables	Observations	M	SD	Minimum	Maximum	M _{Control}	M _{Treatment}
Awaremoney	1,682	3.12	0.98	1	4	3.02	3.19
Recordmoney	1,695	2.98	1.00	1	4	2.85	3.10
Betterspend	1,722	2.13	1.20	1	4	2.19	2.06
Spendquickly	1,703	2.14	1.08	1	4	2.19	2.08
Everytime	1,730	3.44	0.82	1	4	3.35	3.50
Awaremoneyd	1,682	0.45	0.50	0	1	0.38	0.50
Recordmoneyd	1,695	0.37	0.48	0	1	0.31	0.42
Betterspendd	1,722	0.21	0.41	0	1	0.19	0.22
Spendquicklyd	1,703	0.16	0.36	0	1	0.16	0.14
Everytimed	1,730	0.60	0.49	0	1	0.54	0.65
Savings attitudes	1,746	0.17	1.02	-3.09	1.97	0.00	0.32
Saving: Yes/No	1,746	0.78	0.41	0	1	0.73	0.82
SavingAmount	1,746	24,602	50,4670	0	2.10e+07	14173	35430
Log(SavingAmount)	1,746	4.28	7.35	-9.21	16.86	3.54	4.88
IHST(SavingAmount)	1,746	6.85	3.98	0	17.55	6.57	7.08

Note. The indicators in the first five rows are (1) Awaremoney: awareness of money on hands, (2) Recordmoney: money recording behavior by keeping record of how much money on hands, (3) Betterspend: attitude toward spending money today rather than saving for the future use, (4) Spendquickly: spending behavior by spending money today, and (5) Everytime: saving behavior by putting money away for saving every time having money on hands. These indicators are ordinal variables ranging from 1 for strongly disagree to 4 strongly agree. From row 6 to row 10, the indicators are reclassified as dummy variables taking value with 1 if the answer was strongly agree and 0 otherwise: (6) Awaremoneyd: awareness of money on hands dummy, (7) Recordmoneyd: money recording behavior dummy, (8) Betterspendd: attitude toward spending money today rather than saving for the future use dummy, (9) Spendquicklyd: spending behavior dummy, and (10) Everytimed: saving behavior dummy. Savings attitudes refers to saving attitudes index constructed from five savings and spending attitudes variables (Awaremoney, Recordmoney, Betterspend, Spendquickly, and Everytime); Saving: Yes/No is a saving binary dummy variable with a value of 1 if the child has saved and 0 if not (intensive margin); SavingAmount is an amount of savings with 0 if no savings (extensive margin). Log(SavingAmount) is a log of amount of savings where 0s are replaced by 0.0001, and IHST(SavingAmount) is the inverse hyperbolic sine transformation of amount of savings.

Table 3. Balancing Tests.

Variables	(1) Sex	(2) Age	(3) Rice Is Best Food	(4) Private	(5) Size
Treatment	−.0186 (.027)	−0.2731 (0.215)	0.0591 (0.111)	.1780 (.206)	−15.4704 (21.229)
Constant	.5667 (.021)***	12.5539 (0.138)***	2.1511 (0.078)***	.4235 (.151)***	81.8914 (19.340)***
Observations	1,746	1,740	1,724	1,746	1,746
R ²	.000	.010	.001	.032	.036

Note. Coefficient of ordinary least squares regression of dependent variables (sex, age, “rice is best food,” a private school dummy, and size—the number of students who were sampled per class) on a constant and the treatment dummy. Cluster-robust standard errors are reported in parentheses below the coefficients. School is used as the unit for the clusters.

****p* < .01. ***p* < .05. **p* < .1.

Table 4. Overview of Where Students Save Money in Percentage (Q28).

If You Save Money, Where Do You Save It? (Q28)	Observations	Percentage
I give it to my mother to keep for me	386	23.00
I keep it at home in a local bank	393	23.42
I keep it at school in the savings box	519	30.93
I have a bank account	244	14.54
Other	136	8.10
Total	1,678	100

The balancing test presented above suggests that this is indeed the case. However, in order to improve precision, we add a set of control variables. Specifically, we included five control variables, namely, gender, age, a district dummy, a private school dummy, and a proxy for the number of students who were sampled per class. We included gender in the analyses because previous research has shown that women and men differed in household savings attitudes and behavior (see, e.g., Blau & Kahn, 1997; Fisher, 2010; O’Neill, 2003; Schmidt & Sevak, 2006; Sunden & Surrence, 1998). We include age in the analyses to control for age effects between the experimental groups (see Table 2). Since the randomization is stratified at the district level, we also add a district dummy (*District*). We include a private school dummy to control for tendency that students in private schools may be more likely to be fostered savings attitudes comparing to students attended public schools. As class size may impact the quality of education, we added a proxy for class size based on the amount of students interviewed per school.

The equation we estimated is specified as follows:

$$Y_i = \beta_1 + \beta_2 X_i + \beta_3 \text{Treatment}_i + \varepsilon_i,$$

where Y refers to a vector of outcome variables for individual i , X to a vector of controls, and Treatment to the treatment dummy, with a 1 if a child was assigned to the treatment group to participate in the Aflatoun program.

We use multiple estimators to evaluate the impact of the Aflatoun program training. Specifically, regarding impact measured by the variables *Awaremoney*, *Recordmoney*, *Betterspend*, *Spendquickly*, and *Everytime*, we used ordered logit regressions, as these outcome variables are ordinal. The impact of the program on the binary savings attitudes variables (*Awaremoneyd*, *Recordmoneyd*, *Betterspendd*, *Spendquicklyd*, and *Everytimed*) is estimated by using both a standard binary logit model and a linear probability model or in other words linear ordinary least squares (OLS) regressions. A linear probability model has also been used for the savings attitudes index savings attitudes as well as the savings behavior variables—Saving: Yes/No, SavingAmount, Log(SavingAmount), and IHST(SavingAmount).

All estimates are presented with cluster-robust standard errors, using the unit of randomization, school, as the cluster variable. However, as the amount of clusters is relatively small, we also conducted finite-sample corrections for the binary logit models and the linear models. Specifically, for the linear models, we also present standard errors based on the wild cluster bootstrap method using the wild bootstrap procedure described in Cameron, Gelbach, and Miller (2008). The wild bootstrap method provides unbiased estimates of standard errors with few clusters. However, although the wild bootstrap method is very flexible, in general, it cannot be used with nonlinear models that do not have an additively separable error term. Therefore, for the binary logit models, we also present standard errors based on the pairs cluster bootstrap- t procedure. The latter procedure is also robust to clustering with a small number of sampling units. Yet, the pairs cluster bootstrap is in most cases less efficient than the wild cluster bootstrap method as the latter allows imposing the null hypothesis for resampling. The wild cluster bootstrap and the pairs cluster bootstrap standard errors are obtained using the stata program “clustse.”³

Results of the Regression Analyses

Table 5 presents estimation results regarding the impact of the program on the savings attitudes index. Column 1 refers to a regression without controls; column 2 presents the same regression with controls. The table confirms that

Table 5. The Impact of Financial and Social Education on Index of Savings Attitudes.

Variables	(1) Savings Attitudes	(2) Savings Attitudes
Treatment	.3073 (.134) [.029]** [.034]	.2532 (.104) [.020]** [.024]
Age		-.0437* (.023)
Sex		.0131 (.068)
District		-.1732 (.152)
Private		.4098*** (.144)
Size		.0018 (.001)
Constant	-.0000 (.070)	.4313 (.356)
Observations	1,746	1,739
R ²	.023	.061

Note. The following dependent variable was assessed. *Savings attitudes* refer to saving attitudes index constructed from five savings and spending attitudes variables (Awaremoney, Record-money, Betterspend, Spendquickly, and Everytime). Cluster-robust standard errors are reported in parentheses below coefficients. For the treatment variable, we also provide *p* values using the *wild cluster bootstrap-t* procedure, which is robust to clustering with a small number of sampling units. These *p* values are given within brackets below the cluster-robust standard errors. In order to facilitate a comparison between the cluster-robust standard errors and the wild cluster bootstrap, we present *p* values based on cluster-robust standard errors for the treatment variable as well (immediately after the standard errors, between brackets). School is used as the cluster variable.

p* < .10. *p* < .05. ****p* < .01.

the Aflatoun program positively affects savings attitudes, as the coefficients are highly significant. This also holds if wild cluster robust standard errors are used: It appears that *p* values based on the wild bootstrap approach are very similar to *p* values based on cluster-robust standard errors. The constant equals zero, which should be as the constant reflects the mean for the control group. The coefficient for the treatment group reflects the mean of the group that has followed the program.

Next, we looked at the results of the single items. Table 6 presents the results of the ordered logit regressions. The regression results suggest that the social and financial program of Aflatoun positively affects savings

Table 6. The Impact of the Financial and Social Education Treatment on Savings and Spending Behavior (Ordered Logit Regressions).

Variables	(1) Aware- money	(2) Record- money	(3) Better- spend	(4) Spend- quickly	(5) Every- time
Treatment	.3386 (.183)*	.4070** (.189)	-.1919 (.263)	-.1071 (.150)	.3579* (.187)
Age	-.0353 (.046)	-.0005 (.033)	.1128*** (.039)	.0318 (.038)	-.0555 (.050)
Sex	-.0705 (.118)	.1499 (.115)	.1250 (.107)	-.0352 (.101)	.0632 (.103)
District	.0363 (.224)	.0271 (.241)	.5380 (.343)	.1157 (.165)	-.0271 (.216)
Private	.2102 (.212)	.4014* (.206)	-.4684 (.338)	-.5116*** (.190)	.4113*** (.191)
Size	.0002 (.002)	.0031 (.002)	-.0004 (.003)	-.0013 (.002)	-.0001 (.002)
Observations	1,675	1,688	1,715	1,696	1,723
Likelihood ratio test of proportionality of odds	.0003	.0159	.000	.0043	.075

Note. Dependent variable: (1) Awaremoney: awareness of money on hands, (2) Recordmoney: money recording behavior by keeping record of how much money on hands, (3) Better spend: attitude toward spending money today rather than saving for the future use, (4) Spend quickly: spending behavior by spending money today, and (5) Everytime: saving behavior by putting money away for saving every time having money on hands. The outcome indicators are ordinal variables, ranging from 1 for *strongly disagree* to 4 *strongly agree*. Coefficients stem from ordered logistic regressions. Clustered-robust standard errors are reported in parentheses below the coefficients. School is used as the cluster variable. *n* refers to the number of observations. Regarding the test of the proportionality of odds, the asterisks refer to the *p* values.

p* < .10. *p* < .05. ****p* < .01.

attitudes of Ugandan primary school students for 3 of the 5 items: Awaremoney, Recordmoney, and Everytime. However, all *p* values of the test for the proportional odds assumption are significant, which suggests that the coefficients are not equal across categories, possibly invalidating the use of an ordered logit model.

Table 7 shows that the results of the logit analyses are very much in line with the ordered logit results. Again 3 of the 5 items are significant. It should be noticed, however, that the coefficient for *Everytime* becomes insignificant with a *p* value of .19 if the standard errors are based on the pairs bootstrap method.

Table 7. The Impact of the Financial and Social Education Treatment on Savings and Spending Behavior (Logit Regressions).

Variables	(1) Aware- moneyd	(2) Record- moneyd	(3) Better- spendd	(4) Spend- quicklyd	(5) Every- timed
Treatment	.3902 (.196)** [.10]	0.3866** (0.189) [0.09]	0.1980 (0.271) [0.54]	−0.1461 (0.136) [0.34]	.3837* (.205) [.19]
Age	−.0407 (.047)	0.0020 (0.039)	0.0597 (0.051)	0.0549 (0.058)	−.0698 (.051)
Sex	−.0882 (.142)	0.0637 (0.100)	−0.0735 (0.114)	−0.0929 (0.153)	.0686 (.109)
District	.1267 (0.251)	0.1905 (0.216)	0.5345* (0.275)	0.3327** (0.157)	.0802 (.217)
Private	.0943 (0.218)	0.3550 (0.234)	−0.3566 (0.304)	−0.3141* (0.189)	.3290* (.196)
Size	−.0031 (.002)	0.0011 (0.002)	−0.0024 (0.003)	−0.0030 (0.002)	−.0016 (.002)
Constant	.1467 (0.709)	−1.3117** (0.616)	−2.4506*** (0.910)	−2.2573** (0.883)	.8693 (.813)
Observations	1,675	1,688	1,715	1,696	1,723
Log pseudo likelihood	−1,133.8	−1,096.0	−865.5	−734.7	−1,137.1

Note. The following dependent variables were assessed: (1) Awaremoneyd: awareness of money on hands dummy, (2) Recordmoneyd: money recording behavior dummy, (3) Better-spendd: attitude toward spending money today rather than saving for the future use dummy, (4) Spendquicklyd: spending behavior dummy, and (5) Everytimed: saving behavior dummy. The outcome indicators are binary variables. Coefficients stem from binary logistic regressions. Clustered-robust standard errors are reported in parentheses below the coefficients. School is used as the cluster variable. *n* refers to the number of observations. For the treatment variable, we also provide *p* values using the pairs cluster bootstrap-*t* procedure, which is robust to clustering with a small number of sampling units. These *p* values are given within brackets below the cluster-robust standard errors.

p* < .10. *p* < .05. ****p* < .01.

To further test the robustness of the results, Table 8 presents estimates for the five binary savings attitudes variables using linear probability regressions or in other words linear OLS regressions. These results turn out to be in line with the ordered logit and binary logit regressions. Again, 3 of the 5 items are significant. The increase in coefficients corresponds to approximately 0.10 *SDs* of each variable. It is interesting to see that, in line with the binary logit results, the coefficient for *Everytimed* becomes insignificant at the usual significance levels if the wild cluster bootstrap method is used.

Table 8. The Impact of the Financial and Social Education Treatment on Savings and Spending Behavior (Linear Probability Regressions).

Variables	(1) Aware- moneyd	(2) Record- moneyd	(3) Better- spendd	(4) Spend- quicklyd	(5) Every- timed
Treatment	.0950 (.048)* [.09]	.0883** (.043) [.09]	.0344 (.046) [.53]	-.0189 (.018) [.36]	.0910* (.049) [.14]
Age	-.0098 (.011)	.0003 (.009)	.0099 (.008)	.0074 (.008)	-.0165 (.012)
Sex	-.0213 (.034)	.0147 (.023)	-.0120 (.019)	-.0123 (.020)	.0159 (.026)
District	.0295 (.062)	.0438 (.052)	.0940* (.052)	.0453* (.023)	.0213 (.050)
Private	.0242 (.053)	.0809 (.052)	-.0615 (.052)	-.0425 (.027)	.0768 (.047)
Size	-.0007 (.001)	.0003 (.001)	-.0004 (.000)	-.0004 (.000)	-.0004 (.001)
Constant	.5328 (.170)***	.1955 (.137)	.0211 (.155)	.0820 (.120)	.7068*** (.192)
Observations	1,675	1,688	1,715	1,696	1,723
R ²	.021	.019	.014	.006	.030

Note. The following dependent variables were assessed: (1) Awaremoneyd: awareness of money on hands dummy, (2) Recordmoneyd: money recording behavior dummy, (3) Better-spendd: attitude toward spending money today rather than saving for the future use dummy, (4) Spendquicklyd: spending behavior dummy, and (5) Everytimed: saving behavior dummy. The outcome indicators are binary variables. Coefficients stem from binary logistic regressions. Coefficients stem from linear probability regressions (or in other words, from ordinary least square linear regressions). Clustered-robust standard errors are reported in parentheses below the coefficients. School is used as the cluster variable. For the treatment variable, we also provide *p* values using the wild cluster bootstrap-*t* procedure, which is robust to clustering with a small number of sampling units. These *p* values are given within brackets below the cluster-robust standard errors.

p* < .10. *p* < .05. ****p* < .01.

Finally, we assess whether the program affected actual savings. Table 9 shows that the program has a positive significant effect on the intensive margin. That is the training has a positive effect on the decision to save. There is also some evidence that the program affected the extensive margin: The impact on the Log(SavingAmount) is significant. However, in the case where the outcome variables SavingAmount or IHST(SavingAmount) are considered, results become insignificant. Hence, while we do document some positive effects of the program on actual savings behavior, these results are

Table 9. The Impact of Financial and Social Education on Actual Savings.

Variables	(1) Saving: Yes/No	(2) Saving Amount	(3) Log (SavingAmount)	(4) IHST (SavingAmount)
Treatment	.4325 (.185) [.020]** [.06]	16,498.3609 (19,490.597) [0.404] [0.60]	0.9826 (0.469) [0.044]** [0.10]	0.3401 (0.237) [0.161] [0.21]
Age	.0958 (.067)	7,826.3220 (5,724.488)	0.4021 (0.225)*	0.2622 (0.130)*
Sex	-.1593 (.203)	-32,213.6983 (24,908.490)	-0.8393 (0.589)	-0.6131 (0.305)*
District	.6024 (.309)*	-18,752.8487 (20,263.094)	1.2243 (0.559)**	0.4239 (0.242)*
Private	.2594 (.229)	30,775.8105 (26,072.157)	1.2057 (0.609)*	0.8263 (0.294)**
Size	-.0020 (.002)	2.6105 (63.054)	-0.0028 (0.008)	0.0009 (0.004)
Constant	-.7436 (.922)	-56,624.0083 (47,092.440)	-2.6887 (3.018)	2.7427 (1.714)
Observations	1,739	1,739	1,739	1,739
R ²		.003	.026	.026

Note. The following dependent variables were assessed: (1) *Saving: Yes/No*: a saving binary dummy variable with a value of 1 if the child has saved and 0 if not (intensive margin), (2) *SavingAmount*: amount of savings (with a 0 if no savings; extensive margin), (3) *Log(SavingAmount)*: log of savings amount (where 0s are replaced by 0.0001), and (4) *IHST(SavingAmount)* the inverse hyperbolic sine transformation of savings amount (defined as $\log(\text{SavingsAmount} + (\text{SavingsAmount} \times \text{SavingsAmount} + 1)^{0.5})$). Cluster-robust standard errors are reported in parentheses below coefficients. For the treatment variable, we also provide *p* values using the pairs cluster bootstrap (for column (1)) and the wild cluster bootstrap-t procedure (for columns 2–4), which is robust to clustering with a small number of sampling units. These *p* values are given between brackets below the cluster-robust standard errors. School is used as the cluster variable. In order to facilitate a comparison between the cluster-robust standard errors on the one hand and the wild cluster bootstrap or pairs cluster bootstrap, we present *p* values based on cluster-robust standard errors for the Treatment variable as well (immediately after the cluster-robust standard errors, within brackets). Column 1 is based on a Logit regression as the outcome variable is binary. If a linear probability model (ordinary least square [OLS] regression) is used, the coefficient for the treatment variable and the constant, equal .08 and .44, respectively, for a model with controls, and .09 and .73 for a model without controls. Also for these OLS models, the treatment variable appears to be significant at the 5% level.

p* < .10. *p* < .05. ****p* < .01.

weaker, not surprisingly, given the fact that it will take some time before a change in savings attitudes will materialize in a change in actual savings. Again it appears that significance levels based on the cluster-robust standard errors do not differ much from those based on either the pairs cluster bootstrap or the wild cluster bootstrap- t procedure.⁴

Discussion and Conclusions

Recent evidence suggests that saving is very important to escape poverty and to elevate status and independence. However, saving is hard to practice and probably needs to be incentivized at an early age. Therefore, financial literacy of children has been increasingly gaining attention from the academic world, the public sector, the private sector, and NGOs. In response, education programs to help children learn about the importance of savings have been implemented in several countries. However, knowledge of the impact of these programs on savings attitudes and behavior is sparse.

This study tested the impact of one of the first social and financial education programs developed for primary school students in developing countries. The results support the hypothesis that financial education to children is important, as it may help to improve savings attitudes and behavior. More precisely, the intervention increased awareness of money and money recording by approximately 0.10 *SDs*. In addition, the study showed positive effects of the Aflatoun program on actual savings behavior, but, not surprisingly, these results are more variable. The current results differ from findings reported by Berry and colleagues (2015). They studied a longer version of a social and financial program developed by Aflatoun which supported savings at school through a locked money box. They found evidence for behavior but not attitude change. In contrast, the current study provided first evidence for improved savings attitudes in general. The theory of change of the program assumes that changes in attitudes are a first step, an important underlying process change that should result in behavior change. We can only speculate why we found evidence for attitude change. For example, a shorter program without pressure on savings in school might already be enough or the countries (Uganda vs. Ghana) are fundamental different in how a program can stimulate change. Future research is crucial to gain more insights in the underlying processes and effectiveness of such programs in different nations.

Also other studies on the impact of financial literacy programs on actual savings show mixed results (see, e.g., section 2 in Bruhn, Ibarra, & McKenzie, 2013). For instance, Bernheim, Garrett, and Maki (2001) find that financial education in high schools in the United States positively affects savings.

Yet, Cole and Shastry (2008) suggest that these results are not robust. Lührmann, Serra-Garcia, and Winter (2012) show that teenagers in Germany who have obtained financial literacy training save more. However, they only measure savings in a hypothetical task and do not measure actual savings. Our results are encouraging and seem to be in line with existing studies.

We used survey questions to create indicators for savings attitudes and behavior. However, individual self-reports and actual financial decisions do not always correlate strongly (Hastings, Madrian, & Skimmyhorn, 2013; Hastings & Mitchell, 2011), and consumers are often overly optimistic about how much they actually know (Agnew & Szykman, 2005). More importantly, the Aflatoun program itself might have affected the accuracy of reporting sales and profits. If so, this could generate nonclassical measurement error in these variables. The literature is, however, ambiguous about whether this actually happens: while Berge, Bjorvatn, and Tungodden (2014) find that trainings increase reporting errors; Drexler, Fischer, and Schoar (2014) find that trainings reduce reporting errors; and De Mel, McKenzie, and Woodruff (2014) do not find that trainings affect reporting. Another potential concern is that children who participated in the Aflatoun program may be inclined to produce more favorable numbers than children from the control group. These so-called experimenter demand effects may upward bias our estimates of impact. Unfortunately, we lack data from other sources to cross-check the self-reported outcomes on savings attitudes and behavior. To avoid possible biases, future research should monitor students' real savings and spending behavior. Furthermore, the results might be biased as we have only interviewed students who attended school. Future research should also compare the dropout rates of students to rule out this explanation. Yet, with all caveats in mind, we believe that we found tentative evidence that the Aflatoun program positively affected savings attitudes and behavior.

In order to decide on the usefulness of adding a financial education program, like the Aflatoun program, as an extracurricular activity, it is also important to consider the costs of the program. The current implementation of the program costed 21,727 Ugandan Shilling (UGX) (around US\$8 at the time of the implementation in 2012) per child. While it is impossible to provide a rigorous financial cost-benefit analysis of the program, US\$8 cost per child seems rather low. There are no figures on costs of similar interventions available. Yet, we can compare the unit costs, with unit costs for textbooks. A World Bank (2008) study on education in sub-Saharan countries suggests that textbooks tend to have a unit cost varying between US\$3.2 and US\$30.4. Compared to these costs, the unit cost of a financial education program seems low. Therefore, with all caveats in mind, programs like the one of Aflatoun seem a

cost-effective extracurricular activity to improve students' financial knowledge.

To conclude, our findings provide supporting evidence to the growing but still small body of studies that indicate positive effects of financial education on financial attitudes and behavior in developing countries (e.g., Bruhn et al., 2013). The current research adds to this literature by providing evidence from a combined social and financial education training conducted among Ugandan primary students who were on average 12 years old. The results are promising as it turns out that, even with a rather short cost-effective curriculum of 3 months, savings attitudes and behavior can be enhanced.

Appendix

The questionnaire:

The PEDN Social and Financial Education in Primary Schools Children Survey

Hello, my name is I'm working for The PEDN. I would like to invite you to participate in a research study being conducted by our organization.

- Your school has been randomly selected to be part of this study.
- The purpose of this study is to learn more about children's understanding of responsibilities, teaching, money, and finances in Uganda.
- There are no costs or risks to participating.
- Your participation is entirely voluntary. You are free to choose not to participate. You can refuse to answer a particular question.
- The survey will take about 30 min.
- I will ask you some questions about you, your education, your classroom, money, and responsibilities.
- All your answers will be kept private and confidential. The only people who will have access to this information will be the researchers involved in the study.
- Your name and any other information that may identify you will not be published in any materials or report and will only be seen by the researchers in this study.

Do you have any questions? If you have any questions later on, please feel free to ask your teacher and he or she will contact us. You may also contact us directly on Telephone: 0312-291-750 of our PEDN offices at Plot 146 Semawata Road, Ntinda.

If you agree to participate in the study, please tick the box below and write your initials to show that you understand the information above and that your permission is given to ask you the questions.

Please *DON'T* write your full name.

☐ Yes ☐ No Initials of respondent: _____

Part I: Children Should Do Not Fill This Part

For official use. Please don't fill this part

For Enumerator to Fill:

School Name:

School_ID: Term/number: '____' '____' '____'

Region ID: '____' '____'

Interview Date: DD: /MM: /YY:

Respondent ID/interview number: '____' '____' '____' (Please assign before giving out the survey)

Enumerator name: Surname: _____ First name: _____

Enumerator ID:

This person is responsible for reviewing this survey after the enumeration before they leave the class

For Auditors and Principal Investigators to Fill:

Audited and Scrutinized by: Auditor ID.

ID:

BACK—CHECKED-----1

SCRUTINISED-----2

DECISION TAKEN

CORRECTED -----1

SENT BACK -----2

ACCEPTED-----3

Auditor Signature:

Scrutiny Signature:

Verified by PI

Part 2: For Children

Section 1

Here you are going to tell us your age and your sex

I am years old (*Please fill in*)

Are you a girl or a boy (Circle the right number below)

I am a girl ----- 1

I am a boy ----- 2

Section 2

You are going to read some sentences below. For each sentence, I want you to think about your own feelings and tell me how much you agree or disagree. You can tell me you strongly agree, agree, disagree, or strongly disagree. You can only choose one response for each sentence. Here is an example to guide you in the process:

Sentence	Response (Tick one response here)	
1. Rice is the best food in the world	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
2. I enjoy being with friends	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
3. I enjoy coming to school	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
4. School is interesting	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
5. I find school scaring	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
6. I am aware of how much money I have all the time*	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
7. If the teacher is teaching all, I need to do is listen and agree with whatever he or she has to say	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree
8. I keep a record of how much money I have*	1. Strongly agree 3. Disagree	2. Agree 4. Strongly disagree

9. My favorite subject is	1. <i>Mathematics</i> 3. <i>Social studies</i> 5. <i>None</i>	2. <i>Science</i> 4. <i>English</i>
10. I believe I can find answers to questions by myself	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
11. Children are supposed to ask questions and teachers are supposed to answer	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
12. If I don't understand, it's my responsibility to ask the teacher for clarification (explanation)	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
13. I don't feel comfortable talking by myself in front of class	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
14. In our class, we sometimes meet in groups to learn together	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
15. Children's ideas are an important part of class learning	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
16. It's hard to interrupt a teacher to ask him or her a question	1. <i>Strongly Agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
17. If I have not understood what the teacher has said	1. <i>I ask another pupil</i> 3. <i>Other _____</i>	2. <i>I wait until class is over</i>
18. Have you ever asked your teacher to repeat what she or he has said in class?	1. <i>Yes</i> 3. <i>No response</i>	2. <i>No</i>
19. Why do you come to school?	1. <i>My parents make me</i> 2. <i>I have to</i> 3. <i>I enjoy school</i> 4. <i>I like meeting my friends</i> 5. <i>Other _____</i>	

*Indicates the questions we use to obtain outcome variables.

Section 3

20. When I have money, I have to spend it today because I don't know what will happen tomorrow*	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
21. It is better to spend money today than to save it for use in the future*	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
22. If you were to receive 200 UGX a week, what would you do with it? <i>Give as many answers as you want</i>	
23. If you received 50,000 UGX today, what would you do with it? <i>Give as many answers as you want</i>	
24. Do you ever have any money?	1. Yes 2. No
25. If you ever have money where do you get it?	
26. If you have some money, what do you do with it? <i>Give as many answers as you want</i>	
27. I have what to save*	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
28. If you save money, where do you save it?*	<i>I give it to my mother to keep for me I keep it at home in a local bank I keep it at school in the savings box I have a bank account Other: _____</i>
29. If you save money, how much have you saved? *	1. Amount: 2. Don't know
30. Children are as important as the teacher	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
31. I am often bored in class	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree
32. Every time I get money, I first buy an item I don't have	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree

33. I spend my money so quickly	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
34. People are poor because	1. <i>They don't want to work</i> 2. <i>They were born in the village</i> 3. <i>They are sick</i> 4. <i>There is a drought</i>
35. Saving is important because	a. <i>You will never run poor</i> b. <i>You can get what you want</i> c. <i>Other: _____</i>
36. Every time I get money, I put away some money for saving*	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
37. Poor children do not have enough money to make savings	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>

Section 4

38. Elections are the fairest way to choose leaders	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
39. Leaders express the ideas of everyone	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
40. A leader benefits more than everyone else	1. <i>Strongly Agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
41. When making choice in a group, voting does not matter	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>

Aflatoun Questions

Q1. Does your school have a savings day	1. <i>Yes</i> 2. <i>No</i> 3. <i>Don't know</i>
Q2. We have an Aflatoun club leadership in school	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>
Q3. As a club, we take initiative to have club activities go on when teacher is not around	1. <i>Strongly agree</i> 2. <i>Agree</i> 3. <i>Disagree</i> 4. <i>Strongly disagree</i>

Q4. Did you complete the workbook	1. Yes	2. No
Q5. If yes to Question 4, I completed the workbook	a. By myself c. With parents/guardian d. With children	b. With a teacher e. Others _____
Q6. If you have Aflatoun, what do you like about Aflatoun	1. Saving 3. Other (specify) _____	2. How it's taught
Q7. I am always looking forward to our Aflatoun lesson	1. <i>Strongly agree</i> 3. <i>Disagree</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>
Q8. How often would you like to have Aflatoun	1. <i>Once a week</i> 3. <i>As much as possible</i>	2. <i>Twice a week</i>
Q9. I thought that elections for Aflatoun Club leaders were fair	1. <i>Strongly agree</i> 3. <i>Disagree</i> 5. <i>There are no Aflatoun leaders</i>	2. <i>Agree</i> 4. <i>Strongly disagree</i>

Thank-you very much.

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Notes

1. The Honest Money Box program acts as a counterfactual to the Aflatoun program by focusing only on savings and financial literacy. It aims to address the effects that social education may have on financial attitudes and behaviors (see Aflatoun, 2012).

2. The analysis includes observations with zero savings to ensure that the analyses include everybody from the control and treatment groups.
3. The stata program does not promptly have this option, therefore, we installed “clustse” into stata. Please refer to Esarey and Menger (forthcoming), Ibragimov and Muller (2010), and Cameron, Gelbach, and Miller (2008) for more information.
4. The pairs cluster bootstrap procedure is similar to a bootstrap with a cluster option. The difference is that the pairs cluster bootstrap procedure bootstraps the pivotal *t*-statistic and uses the distribution of the *t*-statistic over the bootstrap samples for inference, while the bootstrap command simply uses the variance of the parameter estimates across the bootstrap samples. The pairs cluster bootstrap procedure is useful for obtaining inference about the statistical significance of a parameter when the data are clustered with a small number of clusters (see Cameron, Gelbach, & Miller, 2008).

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