Published in final edited form as:

Child Youth Serv Rev. 2010 November 1; 32(11): 1585–1590. doi:10.1016/j.childyouth.2009.07.016.

Assets and Educational Outcomes: Child Development Accounts (CDAs) for Orphaned Children in Uganda

Jami Curley, Ph.D.,
Saint Louis University

Fred Ssewamala, Ph.D., and
Columbia University

Chang-Keun Han, Ph.D.
National University of Singapore

Introduction

For many developing countries, the high rates of poverty and the lack of resources available to provide universal and/or compulsory education to its children is often a double-edged sword. Education is a key factor in overcoming poverty and disease. It can provide a higher standard of living, access to more and better resources and can provide opportunities that otherwise might not be available to help raise people out of poverty. Yet, obtaining an education if you live in poverty can often be difficult because of poor living conditions, lack of resources and lack of access to opportunities. Poverty is a major issue contributing to low school attendance, low completion rates and low learning outcomes (UNICEF, 2007). This situation is amplified in countries where the rates of orphans—defined as children who have lost one or both parents—are climbing due to diseases, especially HIV/AIDS in sub-Saharan Africa where 24 of the 25 countries with the world's highest levels of HIV/AIDS prevalence rates are located.

Consequently, sub-Saharan Africa is home to 43 million orphaned children (approximately 12% of all children in the region) where almost a third are orphaned due to AIDS (UNICEF, 2004). Traditionally, extended family members in these countries care for the orphans; however, because of the significant rise in the numbers of this population and minimal government support, if any, families are being overwhelmed with their care-taking. Unfortunately, for far too many orphans, the consequences of these circumstances contribute to the breakdown of families and lead to children dropping out of school and going to work to support themselves and younger siblings. They often migrate to urban areas in search of employment, but because they have no employable skills, jobs are hard to find and they end up living on the streets. Here they beg, engage in petty criminal activities, begin drug and substance abuse and prostitute themselves for money. The end result is a life of poverty, exposure to health risks including HIV infection and other sexually transmitted diseases and physical, mental and sexual abuse.

Send all correspondence to: Jami Curley, PhD, Assistant Professor, School of Social Work, Saint Louis University, 3550 Lindel Blvd, St. Louis, MO 63103, Office: 314-977-2738, curleyjc@slu.edu.
Please send reprints to author's address above.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

In many of these situations, receiving an education is one the most effective ways for a child to reach his/her potential and become an economically productive and engaged citizen. Children, a country's most valuable resource, are impending leaders who ultimately grow-up to influence and guide the social and economic growth of their nations. Educating children is not only important for the success of a nation, it is also important for the enrichment and well-being of the child. Education is an important means of fostering protection, psychological and social healing, survival skills, social reintegration and good health practices (Lowicki, 2002; Ssewamala, Alicea, Bannon & Ismayilova, 2008). Without access to education, children's wellbeing and their potential for growth, economic sustenance and contribution to community are diminished (Lowicki, 2002). Moreover, education is a fundamental human right provided for in articles 28 and 29 of the United Nations Convention on the Rights of the Child (United Nations, 1989).

Many countries are seeking to overcome the barriers that contribute to the lack of educational opportunities for their children by trying to provide some level of universal education. Uganda, a sub-Saharan African country heavily affected by a combination of poverty, high HIV/AIDS prevalence rates and civil conflict, is one of the countries attempting to provide their children with an education. Approximately, two million children in the country are orphaned (UNICEF, 2003). Although the HIV/AIDS rates in Uganda have declined in recent years, it is projected that the number of orphans will not decrease any time soon as parents who are currently infected with the disease continue to die.

Several approaches are being tested and/or implemented in the poor countries of sub-Saharan Africa to ensure that the increasing numbers of orphaned children, part of the next generation, are educated. One approach specifically being studied in Uganda is an economic empowerment intervention being implemented by the SUUBI project (detailed below) that uses Children Development Accounts (CDAs). These accounts are matched savings accounts for orphaned children that are matched at rate of 2:1, meaning for every US\$1 a child and/or his/her family saves, the child receives an additional US\$2 deposited into his/her account. The matched accounts are then used to pay for secondary schooling (an equivalent of high school in US system) or to capitalize a small family business. Along with the accounts, students also get financial education and mentorship on career planning.

Using quasi-experimental data, this paper focuses on the participants who pursued an educational goal and examines the positive extent to which an intervention that uses CDAs in Uganda influences educational outcomes of orphaned children. In particular, we are interested in how CDAs are associated with educational/school grades, education aspirations, and the confidence of educational planning. For this study, we hypothesize that CDAs will positively influence the three educational outcomes.

Education in Uganda

When Uganda began implementation of its Poverty Eradication Action Plan (PEAP) in 1997, one of the major outcomes of the plan was the Universal Primary Education (UPE) initiative. Under the UPE system, the government provides free primary education for the first seven years of schooling to all children of primary school age. One of the specific goals of its creation was to provide a higher quality of life for poor children (Kasente, 2003). The policy has reportedly had a significant impact on primary school enrollments. For example, it is stated that enrollment increased from 2.8 million in 1996 to 7.8 million in 2003 (Bategeka, 2005). For orphans alone, in the first year UPE was instituted, enrollment increased from 68% to 88% (UNICEF, 2003). Unfortunately, because secondary education was not free or universal for the first 10 years following the enactment of UPE, the attendance rates for this level are much lower. The average secondary attendance ratio (number of secondary age students in school

over the number of total secondary age students in and out of school) between 2000 and 2006 was 16% (UNICEF, 2007). Recently, the government has instituted what it calls Universal Secondary Education (USE) in a very few selected schools. However, it is not universal, contrary to the name, and the cost associated with uniforms, meals, books, and several other extra school-related fees—which may go up to US\$100 per year—can be prohibitive for poor students to enroll and/or stay in school. Indeed, considering the fact that Uganda ranks among the poorest countries in the world with an estimated GDP per capita (PPP) of US\$1,100 (Central Intelligence Agency, 2008), this is a huge amount for families to spend on a child's education, and it is a strong factor leading to lower rates of secondary education enrollments, especially for orphaned children. Without some form of assistance with secondary education, the future for orphaned children in Uganda is not optimistic.

CDAs: Educational Opportunities for Ugandan Orphans

Asset Theory

Asset theory suggests that assets (e.g., savings accounts, scholarships for education, economic opportunities in the form of income generating activities, homeownership) have important psychological, social, and economic benefits for individuals and families. Assets can be used in times of financial hardships and can be passed on to future generations. Owning assets gives people a sense of stability and allows them to widen their vision on possible opportunities. It provides personal efficacy and self-esteem and gives people a feeling of social connectedness. These feelings are internalized and help form individual behavior (Sherraden, 1991). Research shows that the advantages of asset ownership are numerous and multi-dimensional, including fighting poverty, promoting positive social and economic behavior and increasing future orientation (e.g., Celia, 1994; Page-Adams & Sherraden, 1997; Yadama & Sherraden, 1996; Zhan & Sherraden, 2003).

In the Ugandan case, CDAs constitute a tangible asset that can provide poor orphaned children with a means to expand their life options if they are provided with the training and skills to use the accounts effectively on their own behalf (Ssewamala, 2005; Ssewamala, et al., 2008). Specifically, CDAs for post-primary education may provide children with some financial resources by which they can begin to realistically plan for their future education or job training (Ssewamala & Ismayilova, 2008).

To illustrate the possible effects of CDAs, asset theory would predict a child in primary school with no belief that he/she has the economic means to afford post-primary education is more likely to drop out of school. However, provided with the economic means this child may think and behave differently. Envisioning a concrete possibility for his/her future, this child may act as if he/she has a future worth living (Sherraden, 1986). This child would more likely stay in school and strive to get good grades. An intervention aimed at promoting asset-ownership and economic empowerment would more likely create a reciprocal cycle in which asset accumulation and positive social behaviors will be mutually reinforcing (Ssewamala & Ismayilova, 2008).

Several studies conducted in the Western developed countries have examined the relationship between assets and educational outcomes for children and have reported positive results. Green and White (1997) found that controlling for education and income, children (17–18 years of age) whose families owned assets (measured in the form of homeownership), were less likely to drop out of school and to have children out of wedlock than children whose families are renters. Zhan and Sherraden (2003) findings suggest that single mothers' assets (specified as homeownership and savings) are positively associated with children's educational achievement (including high school graduation), and that this relationship is partially mediated through expectations. Hill and Duncan (1987), testing the effects of asset income on children's

educational attainment and controlling for other factors, found that parental income from assets impacts the educational outcomes of their children. And Moore et al. (2001) report that Individual Development Accounts (IDAs), which are subsidized savings programs for poor families, are associated with parents' being more likely to make educational plans for their children.

However, very few studies have directly connected asset ownership to children's educational outcomes in Africa (Ssewamala & Curley, 2006; Ssewamala & Ismayilova, 2008). Ssewamala and Curley (2006) analyzed the impact of household assets on children's educational outcomes, including orphaned children. Results indicate that asset-ownership, over and above income, matters in influencing the educational outcomes of a child, including the orphaned child. The results of another study in Africa makes a connection between orphans, household wealth and school enrollment, but the author acknowledges that the data set (the DHS surveys) contain no information on income or financial wealth (Case, Paxson & Ableidinger, 2004).

The SUUBI Project

The SUUBI Project, which stands for hope in Luganda (one of the widely spoken Ugandan languages), provides children orphaned as a result of AIDS (also known as AIDS-orphaned children) with a three component program consisting of 1) workshops that focus on asset building and career planning, 2) mentors to reinforce learning, and 3) a children development account (CDA). The combination of these three features is what we refer to as an *asset-based family intervention*. The strategy behind this three-dimensional intervention is to create and broaden asset-ownership opportunities for orphaned children and their families. The expectation is that by creating asset-ownership opportunities for children and their families before they are forced to separate from one another, family breakdown can be reduced, and several child-related negative outcomes, including poor school grades and/or school dropout may be minimized. This approach recognizes that keeping children within their community is a preferable option, among known options, for providing effective and sustainable care for orphaned children. The option provides children with continuity, emotional support, and an opportunity for them to develop within their culture and traditions.

Three types of community institutions were key to the implementation of the SUUBI project, including the maintenance of the CDAs in Uganda. These were: a local faith-based institution (Matale Parish), local schools, and two financial institutions. The faith-based institution's role was to help locate schools that participated in the program; mobilize the community to support the program; and to act as a mediator with people of authority such as local/civic and central government leaders. The schools helped identify the orphaned children, located the villages where the children lived, and provided the necessary community-level information. The schools also provided the participant's academic performance records and a safe space for meetings between the participants and the project staff, including the mentorship meetings and financial planning and management meetings. The financial institutions provided the financial education to the participants, opened their savings accounts, tracked their savings in the CDAs, and provided the participants with their financial statements free of charge.

Project Design

The sample frame for this study was 15 rural primary-level schools located in the Rakai District of Uganda, one of the districts hardest hit by HIV/AIDs in the country. The schools were selected by being matched on several socio-economic characteristics, including location (all rural schools), and the overall academic performance of the students. Each of the schools were randomly assigned to either the experimental or the comparison group. The sample consisted of children in the last year of primary school—just prior to secondary schooling. All children included in the study self-identified as having been orphaned as a result of AIDS. A total of

286 orphaned children were selected. The experimental group had 138 children from 9 schools, while the comparison group had 148 children from the remaining 6 schools. The mean age of the children was 13.7 years (at baseline).

The children in the comparison group received usual care for orphaned children consisting of material support and counseling from faith-based institutions in the target community. The children in the experimental group received, in addition to the usual care mentioned above, an *asset-based family intervention* with 1) twelve 1–2 hour workshops over a 10-month period, focused on assets-building, career planning, and financial planning, including investing in small business development. The workshops introduced the participants to asset-building strategies, including saving, education and small business development. The workshops were conducted by Ugandan students from Makerere University who were familiar with the traditions of the study area, and trained on human subjects' issues; 2) a monthly mentorship program for the children enrolled in SUUBI with peer mentors on future planning, and overcoming emotional challenges; and 3) a Child Development Account (CDA) [(also known as a child savings account)], dedicated to paying for secondary schooling and/or a family small business. No participant was allowed to access their CDA without completing the required twelve workshops. All participants were reimbursed for their transport during the workshops and mentorship sessions.

The CDA was held in the child's name either in Centenary Rural Development or DFCU bank, two of the most recognized financial institutions working with low-to-moderate income families in Uganda. Any of the child's family members, relatives or friends were allowed, and indeed encouraged, to make deposits into the CDAs. The account was then matched, at a match rate of 2:1, with money from the SUUBI-program intervention. The match cap (the maximum amount of family contribution matched by the intervention program) was set at an equivalent of US\$10 a month per child, or US\$120 for each year during the study period.

Methods

Data and Sample

This study uses longitudinal data from two points in time -- data collected at baseline/pre-SUUBI intervention (herein referred to as Wave 1) and 10-months following the SUUBI intervention (herein referred to as Wave 2) -- to examine how the SUUBI' program influenced participants educational outcomes, including school grades (measured by a national standardized examination called *Primary Leaving Examination* — PLE), educational aspirations, and confidence in achieving specific educational plans. Specifically, educational aspirations and confidence in achieving specific educational plans were examined over the 10 month study period to determine any changes and whether following the intervention, participants in the experimental group vs. participants in the comparison group show different patterns of change/growth in their educational aspirations and confidence in achieving specific educational plans.

The starting sample for this study was 286-orphaned children. For the analysis presented in this paper, the sample was reduced to 274 (a 4.2% reduction between baseline and 10-month follow-up) because of attrition and missing data. The experimental and comparison groups were reduced to 133 and 141, respectively.

Measures

Key outcome variables of this study are: (1) school grades, measured by Primary Leaving Examination (PLE)—a nationally administered standardized examination taken by all students

completing Primary-seven (the last grade in primary schooling); (2) educational plans after primary school; and (3) child's confidence of achieving the educational plans.

First, the PLE is measured in aggregates—with a range of 4 to 36. A lower aggregate indicates better performance. For example, if a child obtains a total aggregate of 4, it means that he/she receives Distinction 1 (the best grade one could receive in a given subject) for each of the four subjects on which each student is tested on the PLE (including Mathematics, English, Social Studies and Science). Likewise, if a child obtains a total aggregate of 36, it means that he/she failed each of the four subjects on which that student was tested. This is represented by F9 (the worst grade one could receive) for each of the four subjects. Since the baseline data of this study were collected in the first academic term, no students had taken the PLE. Therefore, aggregates from PLE taken by Wave 2 (in the third academic term: November–December—which is the end of an academic year in the Uganda's primary education system) were used as a measure of academic performance. As mentioned earlier, lower aggregates on the PLE represent excellent school grades and higher aggregates represent poor grades.

Second, to measure students' educational aspirations, the survey asked "*What are your educational plans after high school?*" Participants selected one of four responses: "I have no plans", "Vocational/technical or job training", "Go to a college which awards diplomas", and "Go to the university for a degree". The responses were coded from 1 to 4 indicating that a higher score means higher educational aspiration of the student. The ordinal measure of a student's educational aspiration at Wave 2 was used as an outcome variable in the ordinal regression model, controlling for a student's aspiration at Wave 1 and other covariates.

Third, following the specific educational plans question, students were asked how sure they were about the possibility of achieving their educational plans—representing the child's confidence of achieving the educational plans. Students had a 3-point response choice with 1 being the least confident and 3 being the most confident. Similar to the measure used for educational plans, child's confidence of achieving educational plans at Wave 2 was used as an outcome measure controlling for the same measure (child's confidence of achieving educational plans) at Wave 1.

Additionally, the study includes other covariates such as child's age and gender, household composition (number of adults and other children in the household), type of orphan (dual orphan, mother alive, and father alive), source of financial support (parent, grandparent(s), and others), homeownership. All of these covariates were measured at Wave 1.

Results

Demographic Characteristics

The sample for this study consists of 274 orphaned children with an average age of 13.7 years. Slightly more girls (56%) than boys (44%) participated in the program. The average family size is 6.7 people with 3.5 children. Forty-two percent of the participants report having only their mother living; 19% have only their father living; and 39% have neither their mother nor father living. About 31% of the families are financially supported by biological parents, 30% are supported by grandparents and 39% are supported by other relatives, including uncles, aunts and family friends. A majority (90%) of children report living in their own homes—although these are very modest homes by Western standards (see Table 1).

Comparisons in the demographic characteristics between the experimental and comparison groups find that there are no significant differences in children's gender and age, type of orphan, number of adults, and source of financial support. However, findings show that children in the experimental group have more siblings (3.84 vs. 3.09) and are less likely to live in their own

homes than their counterpart (87% vs. 94%) (see Table 1). It is important to note that we are not sure how these differences affected the outcomes. We control for all the observable differences in our statistical analysis.

Savings Outcomes

Were children in the SUUBI program intervention able to save? Children in the SUUBI program, who were offered the opportunity to save, did save. Specifically, 132 participants in the experimental group (with the savings accounts) saved an equivalent of US\$6.33 in average monthly savings. This is approximately 53% of the possible match. The mean monthly deposit with the match (2:1) is \$19 per month.

Educational Outcomes

Descriptive and bivariate analyses of 3 educational outcomes are presented in Table 2. First, the experimental group report better PLE aggregate scores than the comparison group (25.45 vs. 29.26). As indicated earlier, lower aggregates indicates better performance. In this case, 25.45 is better than 29.26. Second, results reveal that the majority of students have high educational aspirations in that they want to go on to college or university for diploma or degree. Further the educational aspiration gap between the experimental and comparison group widened from 0.30 (3.39-3.09) to 0.44 (3.44-3.00) during the 10-month intervention period. Third, results indicate that, in general, students have high confidence in achieving their educational plans. The confidence increased from 2.31 at Wave 1 to 2.65 at Wave 2. However, the experimental group shows a larger positive change (from 2.43 to 2.83) in the confidence compared to the comparison group (from 2.18 to 2.45)(see Table 2).

School grades measured by the PLE

An OLS regression model was conducted to examine the extent to which participation in the economic empowerment program influences educational performance among children in the study controlling for several covariates (see Table 3). Findings show that the model explains approximately 15% of the variance in the school grades. Based on the PLE aggregates, children in the experimental group are more likely to have better school grades compared to their counterparts in the control condition. Furthermore, findings indicate that the child's age and the primary financial supporter for the child's household are also significantly associated with the PLE aggregates. Specifically, older children are more likely to report lower PLE grades compared to their younger counterparts. Finally, children in households where grandparents are the primary financial supporters are more likely to show lower performance than those with other relatives as the primary financial supporters.

Educational Plans—Using OLS regression, the extent to which the SUUBI program influenced changes in the educational plans, controlling for covariates and educational plans at Wave 1, were examined. The model explains approximately 41% of the variance in the change in the educational plans. Controlling for several covariates, results indicate that children in the experiment group are more likely to have positive changes in their educational plans than those in the comparison group. Additionally, girls are more likely to have positive changes in their educational plans than boys (see Model 2 in Table 3) and older children are marginally but less likely to have positive changes over the course of the study than younger children. Further, educational plans at baseline are highly associated with the changes in the plan at Wave 2. Specifically, children with high educational aspirations are more likely to maintain their original educational plans. This study also tested whether gender moderates the relationship between the SUUBI program and educational plans but no significant moderation effect was found.

Level of Confidence in Educational Plans—Similar to the educational plans, the association between the SUUBI program and the changes in the confidence in educational plans using OLS regression was examined. The SUUBI program's influence on the changes in the children's confidence in achieving their educational plans is very strong. Findings suggest that SUUBI participants are more likely to be confident about achieving their educational plans in the future compared to their counterparts in the comparison group (see Model 3 in Table 3). While the confidence at Wave 1 is significantly associated with the changes in the confidence at Wave 2, we found no other significant covariates with the outcome variable.

Study Limitations

Limitations for this study include the following. First, the study only included orphaned children who were currently in school. This group might have different characteristics from orphaned children who were of school-going age, but not in enrolled in school. We do not know how the program might have worked if it had been focused on orphaned children not currently in school but interested in enrolling in SUUBI. Second, as currently implemented, SUUBI focuses on orphaned children in rural schools. The findings may be different for urban-located schools. Third, the study is based on two data points. Results from a relatively longer period may be different, although we do not know how. For example, a longitudinal study might help control for short-term effects such as initial excitement of participation in the program. Finally, the variations in the outcome variables, educational plans and confidence in educational plans, may be too small for OLS regression analysis.

Even with the aforementioned limitations, this study has implications for policy, programming and practice, especially in regards to working with orphaned children in low-resource communities and countries.

Discussion and Policy Implications

The creation of the UPE in Uganda promoted primary school enrollment to all children, including orphans. However, the task now becomes how to enable orphaned and other vulnerable children to complete primary school (not simply enroll), and to complete higher level education (beyond primary) to ensure them the opportunities for eventual productive employment. The results from the first two waves of the SUUBI Project presented in this paper (baseline and 10-months post-intervention) indicate that CDAs can be used as part of an *asset-based family intervention*. Orphans in the study were able to save money in their savings accounts. Furthermore, the orphans with CDAs were found to have greater future educational plans; and a higher level of confidence in their future educational plans than their counterparts in the comparison group who did not have CDAs.

These outcomes provide support for the implementation of broader CDA programs in Uganda and other developing countries. In nations that can only afford certain levels of universal education or none at all, *asset-based family interventions* that include CDAs may be part of a multi-dimensional government development plan to help off-set the cost of comprehensive education and increase educational opportunities for disadvantaged children whose families can not meet the expenses of other available educational options. As mentioned earlier, Uganda is trying universal secondary education in certain areas. If they implemented a CDA program, they could reach a wider range of students as the limited government resources would be stretched further. Other organizations, such as national or regional businesses as well as NGOs, could set up programs to help fund CDA programs too. Implementation and administration for the government programs could be done at the regional and local level for efficiency purposes for the government, but there could be an oversight committee for specific rules and regulations

so that a certain level of equivalency throughout the country would exist. For private organizations, the programs could be implemented according to their preferences, but would still have to adhere to the overall government rules and regulations.

Based on the empirical evidence of this study and other similar studies on matched savings accounts, researchers, NGO's or other private organizations may want to consider pilot-testing programs in other developing countries on a limited bases to provide evidence of the effects of these programs in their countries. CDA programs should, however, be tailored to specific countries depending on the circumstances and needs of the populations, but the primary saving structure and financial education component could stay consistent across countries, at least in the initial stages as these programs are being experimented.

The SUUBI Project has provided important data that may support educational related policies and programs, with a potential to increase the life chances of orphans and other vulnerable children, particularly in developing countries where resources are limited. More rigorous research is needed to determine the right combination of program features and other intervention details, but the SUUBI Project has established a good beginning in answering some of the questions and moving this agenda forward.

Acknowledgments

Financial support for the SUUBI-project study on which this paper is based came from the National Institute Health (RFA # MH076475-01, Fred M. Ssewamala PI). We are grateful to the Columbia University School of Social Work, the Center for Social Development at Washington University and the Friedman Family Foundation for funding the pilot study (SEED-Uganda) whose findings provided the necessary groundwork for the SUUBI project. Further, we are grateful to the SUUBI project research staff and volunteers for monitoring the study implementation process, especially, Ms. Proscovia Nabunya, Reverend Fr. Kato Bakulu, and Ms. Stacey Alicea. We thank Professors Jane Waldfogel and Nabila El-Bassel, both at Columbia University; Mary McKay at Mt. Sinai School of Medicine; and Michael Sherraden at Washington University for helpful comments on the study intervention design, implementation and/or data collection methods. Our thanks also go to all the children and their caregiving families who agreed to participate in the SUUBI project study.

References

- Bategeka, L. Universal primary education (UPE) in Uganda: Report to the inter-regional inequality facility-policy case study. Brighton, UK: University of Sussex, Institute of Development Studies; 2005.
- Case A, Paxson C, Ableidinger J. Orphans in Africa: Parental death, poverty and school enrollment. *Demography* 2004;41(3):483–508. [PubMed: 15461011]
- Celia, S. Children and violence: v. 11: The child and the family. Northvale, NJ: Jason Aronson Inc; 1994. Sociocultural roots of violence: Street children in Brazil.
- Central Intelligence Agency (CIA). World fact book. Washington D.C.: Author; 2008.
- Green RK, White MJ. Measuring the benefits of homeownership: Effects on children. *Journal of Urban Economics* 1997;(41):441–461.
- Hill MS, Duncan GJ. Parental family income and the socioeconomic attainment of children. *Social Science Research* 1987;6:39–73.
- Kasente, D. Gender and education in Uganda. A case study for EFA monitoring report, 2003. Paris, FR: UNESCO; 2003.
- Lowicki, J. Untapped potential: affected by armed conflict: A review of programs and policies. New York: Women's Commission for Refugee Women and Children; 2002. Retrieved November 10, 2007, from <http://www.womenscommission.org/pdf/adol2.pdf>
- Moore, A.; Beverley, S.; Schreiner, M.; Sherraden, M.; Lombe, M.; Cho, E., et al. Saving, IDA programs, and effects of IDAs: A survey of participants. American Dream Policy Demonstration (ADD): A national demonstration of Individual Development Accounts (Report). St. Louis: Washington University, Center for Social Development; 2001.

- Page-Adams D, Sherraden M. Asset building as a community revitalization strategy. *Social Work* 1997;42 (5):423–34.
- Sherraden M. School dropouts in perspective. *Educational Forum* 1986;51(1):15–31.
- Sherraden, M. *Assets and the poor: A new American welfare policy*. New York, NY: M.E. Sharpe; 1991.
- Ssewamala, F. *Children development accounts in Africa: A pilot study* (Working paper No. 05-05). St. Louis, MO: Washington University, Center for Social Development; 2005.
- Ssewamala F, Alicea S, Bannon W, Ismayilova L. A novel economic intervention to reduce HIV risks among school-going AIDS-orphaned children in rural Uganda. *Journal of Adolescent Health* 2008;42 (1):102–104. [PubMed: 18155037]
- Ssewamala F, Curley J. Asset-ownership and school attendance of orphaned children in Sub-Saharan Africa. *Social Development Issues* 2006;28(2):84–105.
- Ssewamala, F.; Ismayilove, L. Faith-based institutions as project implementers: An innovative economic empowerment intervention for care and support of AIDS-orphaned and vulnerable children in rural Uganda. In: Joshi, P.; Hawkins, S.; Novey, J., editors. *Innovations in Effective Compassion: Compendium of Research Papers for the White House FBO Conference*. Washington D.C.: US Department of Health and Human Services; 2008. p. 213-235.
- United Nations (UN). *Convention on the rights of the child*. (Document A/RES/44/25). New York, NY: Author; 1989.
- UNICEF (United Nations Children's Fund). *Africa's orphaned generations*. New York, NY: Author; 2003.
- UNICEF (United Nations Children's Fund). *Children on the brink* 2004. New York, NY: Author; 2004.
- UNICEF (United Nations Children's Fund). *A human rights-based approach to education for all*. New York: Author; 2007.
- Yadama G, Sherraden M. Effects of assets on attitudes and behaviors: advance test of a social policy proposal. *Social Work Research* 1996;20(1):3–11.
- Zhan M, Sherraden M. Assets, expectations, and children's educational achievement in female-headed households. *Social Service Review* 2003;77(2):191–211.

Table 1

Descriptive and bivariate analysis of the sample

Variables	Total sample (N=274)	Experimental Group (n=134)	Control Group (n=140)	t-test or χ^2
Children's gender (%)				1.61
Male	43.71	47.3	39.86	
Female	56.29	52.7	60.14	
Children's age	13.73 (1.41)	13.85 (1.34)	13.63 (1.47)	1.31
Type of orphan (%)				1.73
No father	41.84	40.87	41.38	
No mother	18.79	21.9	15.86	
Both parents died	39.36	37.23	42.76	
Number of adults in household	3.19 (1.5)	3.24 (1.46)	3.14 (1.55)	0.55
Number of children in household	3.45	3.84	3.09	2.71 **
Source of financial support (%)	-2.35	-2.58	-2.06	2.24
Mother or father	30.77	34.78	27.03	
Grandparents	29.72	26.81	32.43	
Others	39.51	38.41	40.54	
Home ownership (%)	90.3	86.67	94.33	4.74 *

*
Note: $p \leq .05$;**
 $p \leq .01$

Table 2

Descriptive and Bivariate Results of Educational Outcomes

	Total Sample Mean (SD)	Experimental Group Mean (SD)	Comparison Group Mean (SD)	t-test
Primary Leaving Examination (PLE)	27.71 (6.49)	25.45 (6.26)	29.26 (6.33)	4.71 ***
Educational plans				
Wave 1	3.24 (1.12)	3.39 (1.00)	3.09 (1.21)	-2.22 *
Wave 2	-3.21 (1.15)	3.44 (1.04)	3.00 (1.21)	-3.24 ***
Change in educational plans (W2-W1)	0.03 (1.41)	-0.05 (1.41)	-0.09 (1.42)	-0.91
Confidence in educational plans				
Wave 1	2.31 (0.85)	2.43 (0.74)	2.18 (0.95)	-2.21 *
Wave 2	2.65 (0.59)	2.83 (0.44)	2.45 (0.67)	-5.10 ***
Change in the confidence (W2-W1)	0.34 (0.87)	0.4 (0.77)	0.27 (0.96)	-1.46

* Note: $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$

Table 3

OLS Regression on Primary Leaving Examination (PLE)

Variables	Model 1 PLE	Model 2 Educational plans	Model 3 Confidence in the plans
	B (SE)	B (SE)	B (SE)
Constant	7.75 (4.81)	3.55 *** (0.81)	2.12 *** (0.45)
Child's age	1.26 *** (0.31)	-0.09 † (0.05)	-0.01 (0.03)
Child's gender: Girls	1.08 (0.82)	0.37 ** (0.14)	0.09 (0.09)
Orphan status (Dual orphan)			
Only mom alive	1.68 (1.02)	-0.15 (0.17)	-0.14 (0.10)
Only dad alive	1.06 (1.17)	-0.02 (0.20)	-0.16 (0.11)
Number of adults	0.18 (0.24)	0.02 (0.04)	0.01 (0.02)
Number of other children	-0.08 (0.27)	-0.04 (0.05)	0.01 (0.03)
Financial support (Others)			
Parent	-1.74 (1.10)	0.27 (0.18)	0.03 (0.10)
Grandparents	0.85 † (0.47)	0.07 (0.08)	0.02 (0.05)
Owning home	1.69 (1.52)	-0.3 (0.26)	0.12 (0.14)
Educational plans	-0.16 (0.35)	-0.79 *** (0.06)	
Confidence in educational plans			-0.87 *** (0.05)
Experimental group	-2.94 *** (0.84)	0.35 * (0.14)	0.36 *** (0.08)
F (df)	4.47 *** (12)	16.56 *** (12)	30.52 *** (12)
R ²	0.19	0.44	0.66
Adjusted R ²	0.15	0.41	0.64

Note: Variables in parentheses indicate reference groups; Numbers in parentheses stand for robust standard error.

†
p≤.10;*
p≤.05;**
p≤.01;***
p≤.001