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2016

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Acknowledgements

This study is a product of YouthSave, created in partnership with The MasterCard Foundation. The MasterCard Foundation did not take part in the design, collection, analysis, or interpretation of data in this study or in the writing or submission of this manuscript. The authors thank the YouthSave research participants for their time and involvement in the project, headmasters and teachers in the project schools for allowing their institutions to be part of the research, and field interviewers at the Institute of Statistical, Social and Economic Research (ISSER) at the University of Ghana for their data collection support. The authors also thank Susan White at the University of North Carolina at Chapel Hill and Tiffany Trautwein at the Center for Social Development for their editorial assistance.

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Gina A. Chowa, Rainier Masa, & Rani Deshpande

Governments and the private sector across the world have used a wide array of financial inclusion strategies to reach youth (Child and Youth Finance International, 2012; Making Cents International, 2012; Meyer, Masa, & Zimmerman, 2010). Sound policy interventions, such as financial inclusion, offer governments a possible additional strategy to successfully and sustainably address the lack of economic opportunities and its adverse effects on low-income youth. Financial inclusion strategies offer a cross-sectoral and innovative policy blueprint that may have the dual objectives of increasing access to youth-friendly financial services (e.g., savings and credit) and enabling youths' successful transition to adulthood through increased economic opportunities.

Although evidence from various savings programs around the world indicates that there is demand for youth savings products and services (Chowa et al., 2010; Deshpande & Zimmerman, 2010; Masa et al., 2009; Meyer et al., 2010), little is known about the drivers and barriers of youth financial inclusion. Initial evidence from separate studies suggests that youth, regardless of income, gender, age, religion, parental status, and marital status, want to and do save (Chowa, 2008; Masa et al., 2009). A recent analysis of macroeconomic levers of youth savings conducted by CGAP reported a high correlation between GDP and youth savings (Kilara, Magnoni, & Zimmerman, 2014). However, these findings do not explain what predicts better financial capability and development outcomes among youth who were all exposed to the same financial inclusion intervention. In other words, we know little about what characteristics of youth – individual or environmental – facilitate positive outcomes. Identifying these characteristics may contribute to better targeting of financial programs for youth and appropriateness of additional strategies to ensure equal benefits across different populations. In addition, limited evidence informs our understanding of whether exposure to financial inclusion programs alone or actual uptake of financial products and services predicts positive outcomes.

The goal of this report is to see if outcomes among treatment youth differed based on youth or environmental characteristics and whether behaviors such as opening an account or saving are associated with positive outcomes.

YouthSave was a financial inclusion strategy that was launched to specifically target youth in resource- limited countries to help address some of the barriers to youth financial inclusion. YouthSave was a five-year project that investigated the potential of savings accounts as a tool for youth development and financial inclusion in Colombia, Ghana, Kenya, and Nepal. In Ghana, a cluster-randomized experiment was additionally designed to investigate the impact of youth savings accounts (YSAs) on youth development and the economic stability of their households (details of the findings from the experiment can be found in the endline report Chowa et al., 2015). Unlike the analysis in the YouthSave endline report, the goal of this report is to investigate the differential impacts of the intervention on the youth in the treatment schools of the experiment to understand if there were any factors that facilitated better outcomes in the YouthSave experiment and how these same outcomes differed based on youth characteristics such as age, gender, grade level or environmental characteristics such as location, household living conditions, or household wealth. This report also aims to provide evidence on whether YSA-related behaviors (e.g., opening an account and

depositing savings) are associated with positive outcomes. This investigation will begin to address issues of how resilient youth can be in the face of challenging intra-personal, household, or societal risk factors and whether findings presented in this report could be used to guide development of interventions toward optimal results for youth well-being.

To explore these differential impacts, this paper addresses an overall question: Why did youth who were offered savings accounts in the YouthSave experiment perform differently on financial capability and youth development outcomes? This investigation is couched in five questions that provide some answers to the overall research question. The first question examines how treatment youth differed on a number of outcomes. The second investigates how youth in the treatment schools who opened accounts and deposited into these accounts performed on youth development accounts compared to those in the treatment groups who did not open accounts, or who opened accounts but did not deposit any money beyond the initial deposit. The third and fourth questions investigate whether youth characteristics or environmental characteristics influence the differential performances. The final question examines what the most influential factor for positive outcomes was and how this differed before and after the intervention. The five questions are:

1. How did youth in treatment schools in YouthSave perform based on factors that influence youth financial capability outcomes?
2. How did performance on development outcomes for youth who opened and/or deposited money into their accounts in treatment schools differ from those who did not open accounts or deposited money into their accounts?
3. Did positive financial capability outcomes in YouthSave differ according to youth characteristics vs environmental factors?
4. Did positive youth development outcomes in YouthSave differ according to youth characteristics vs environmental factors?
5. Overall, what was the most influencing factor on positive YouthSave outcomes?

The presentation of findings in this report begins with the youth characteristics (including age, gender, and grade level) and environmental factors (including geographic location, household asset ownership, and quality of living conditions) that influenced treatment youth performance in the Ghana YouthSave experiment and the association between YSA-related behaviors (such as opening an account, depositing, and saving) and youth development outcomes. Second, we present results on whether youth characteristics or environmental factors predicted positive financial capability outcomes. Third, we describe the findings on whether youth characteristics or environmental factors predicted positive youth development outcomes. Lastly, we identify the most important (or influential) factor for positive youth outcomes across various individual and environmental variables. We then discuss the findings, including implications for practice and policy. We conclude the report with potential directions for future youth financial inclusion strategies in resource-limited countries.

The intervention in the Ghana experiment was an experiential financial inclusion program that included a savings program using an in-school banking model for 25 treatment schools and a marketing outreach savings program for the other 25 treatment schools. These experiential programs provided an opportunity for youth to open savings accounts and into which they could deposit their savings. The savings product in Ghana was called Enidaso.

The sample for this investigation included the youth in treatment schools (both in-school banking and marketing) in the Ghana YouthSave experiment. At baseline, there were 3,101 youth in 50 treatment

schools. Of the 3,101 treatment youth, 2,153 were surveyed at endline, or 69% of the original treatment sample size (Chowa et al., 2015). Data used in this report came from two waves of survey data. Baseline data were collected in 2011, and endline data were collected in 2014, or three years after baseline.

Our analysis plan included bivariate and multivariate tests, as well as an examination of univariate statistics. For continuous variables (e.g., living conditions and savings amount), we divided the sample into four equal groups (or quartiles). To answer research question 1, we segmented treatment youth based on individual and environmental characteristics of youth and examined the impact of the segmenting variables on financial capability and youth development outcomes. We further segmented treatment youth by stratifying the sample based on different youth characteristics. For instance, after segmenting the treatment sample by gender, we stratified each segment (i.e., boys and girls) by geographic residence. We then examined the impact of the variables on financial capability and youth development outcomes. To answer research questions 2, 3, and 4, we conducted multivariate linear and logistic regression analysis that controlled for youth individual and environmental factors. We then examined the effects of each factor on financial capability and youth development outcomes. To answer research question 5, we examined results of all previous (questions 1 to 4) analyses. Consistent with the endline report (Chowa et al., 2015), we conducted our analyses based on the lagged dependent variable and the change score models. We also performed statistical tests that considered the clustering of youth within schools. This report only included statistically significant results and relevant findings that demonstrated statistical trends.

We defined financial capability outcomes as the combination of access and usage of savings accounts, knowledge, skills, and self-efficacy required for conducting desirable money management behaviors. These outcomes included money that belongs to youth (regardless of how the youth intend to use the money), amount of savings (i.e., money that youth set aside to use later, whether in or outside of the account), saving frequency (i.e., how often youth save money), presence of savings goal, and access (opening) and usage (depositing) of Enidaso accounts. In addition, we defined youth development outcomes as the combination of protective factors, including beliefs, skills, and abilities that can help young people succeed and reduce engagement in risky behaviors. These outcomes included future orientation (orientation toward success and uncertainty of future), parent-youth relationships (parental connection and parental monitoring), and student academic traits (commitment to school and academic self-efficacy). A higher score on all youth development outcomes, except uncertainty of the future, indicates a higher level of desirable traits. A lower score on uncertainty of the future outcome indicates a higher level of future orientation.

What factors are associated with positive performance for treatment in the Ghana YouthSave Experiment?

The first set of analyses addressed the question: How did youth in YouthSave treatment schools perform based on factors that would otherwise influence youth financial capability outcomes? The purpose of this analysis is to understand how factors known to drive financial capability influenced results within the treatment population.. For example, regardless of the YouthSave treatment offering savings accounts to both boys and girls, younger and older youth, and youth in urban and rural areas, did girls save more than boys, did older youth save more than younger ones, were urban youth more likely to open accounts and use the accounts more than youth in rural areas, and were youth in wealthier households more likely to save? These factors are based on research that has shown that age, gender, family or household assets, geographic location, and living conditions impact asset accumulation (e.g., Chowa, Masa & Sherraden, 2012; Chowa, Masa & Ansong, 2012; Masa et al., 2010).

The segmentation analysis of the treatment youth indicates that each factor that would influence positive financial capability outcomes had some differential impacts on outcomes. Age, gender, grade level, location, and living conditions were associated with both youth development outcomes and financial capability outcomes. Gender had some association with financial capability outcomes. Boys had more money than girls. This finding is consistent with the idea that cash income is viewed primarily as a male domain in many societies in SSA (Gladwin et al., 2001), which in turn, may suggest limited control of young women over income-generating activities (McCoy et al., 2013). In addition, the youngest age group, 9 to 11, had the highest gains on development outcomes, although, the 18-years and older group had the most money that belonged to them. Location was the most consistent predictor of positive outcomes among treatment youth (i.e., urban-based youth performed better than rural-based youth). Youth in urban areas had more positive outcomes compared to youth in rural areas. More urban-based youth heard of the Enidaso account (p = 0.00), opened an Enidaso account (p = 0.00), had more money that belonged to them (p = 0.00), had more money saved (mean difference of 142Ghanaian cedis [GHC], p < .001), set more money aside in a typical month (mean difference of 160 GHC, p < .001), and reported fewer barriers to condom use than their counterparts in rural areas. These findings are consistent with resources and opportunities for both financial inclusion and education, with more resources and opportunities concentrated in urban areas and fewer resources for youth who live in rural areas. For details of the findings of the association of a range of variables, please see in appendix A.

Age, gender, grade level, location, and living conditions were associated with both youth development and financial capability outcomes. Location was the most consistent predictor of positive outcomes among treatment youth.

After exploring whether outcomes differed based on the treatment youths' characteristics, the next question is to find out whether youth who opened accounts performed differently on development outcomes. This question is important for practice and policy development. If evidence demonstrates that opening accounts for youth yield higher development outcomes, then policy makers ought to pay attention and develop policies that incorporate account opening to enhance youth development outcomes. Further, the analysis explores whether youth who used the account (i.e., deposited into Enidaso accounts) performed differently on youth development outcomes compared to treatment youth who opened an account but did not use the account. Results provide evidence of how opening an account, using the account in terms of depositing, and actual savings are associated with youth development outcomes.

Did performance on development outcomes for youth who opened accounts in treatment schools differ from those who did not open accounts?

Among the variables tested in the Ghana Experiment, opening and depositing into an Enidaso account was associated with better outcomes on orientation towards success and uncertainty of the future among treatment youth, while results for parental connection and monitoring were mixed[1]. Results indicate that youth who opened and/or deposited into an Enidaso account had higher orientation

[1] The ranges of possible scores for youth development outcomes were as follows: 1) zero to 66 for orientation toward success; 2) zero to 55 for uncertainty of the future; 3) zero to 20 for parental connection; 4) zero to 15 for parental monitoring; 5) 0 to 99 for commitment to school; and 6) 0 to 88 for academic self-efficacy.

toward success and less uncertainty of the future than youth who did not open an account or who opened an account but did not deposit any money into it. Treatment youth who opened and made deposits into their Enidaso accounts scored 1.14 points higher on their endline orientation toward success scores contrasted with youth who opened an Enidaso account but did not make deposits. This relationship approached statistical significance (p = .06). Controlling for age, gender, location, asset ownership, and living conditions quartile, the treatment youth who opened an Enidaso account scored 1.26 points lower on their endline uncertainty of the future scores, contrasted with treatment youth who did not open an Enidaso account. This relationship was statistically different between the two groups (p = .03).

Parental connection results indicate mixed association between YSA-related behaviors (i.e., opening and depositing) and parental connection scores. Youth who opened an Enidaso account had lower parental connection. Controlling for age, gender, location, asset ownership, and living conditions, treatment youth who opened an Enidaso account scored 0.76 points lower on their endline parental connection scores compared with treatment youth who did not open an Enidaso account. This relationship was statistically different between the two groups (p = .002). On the other hand, youth who opened and made deposits into their Enidaso account scored 0.69 points higher on their endline parental connection scores, contrasted with youth who opened an Enidaso account but did not make deposits. This relationship approached statistical significance (p <.10).

In addition, opening an Enidaso account is associated with lower parental monitoring scores, whereas depositing in an Enidaso account is associated with higher parental monitoring scores. Treatment youth who opened an Enidaso account scored 0.80 points lower on their endline parental monitoring scores, contrasted with treatment youth who did not open an Enidaso account. This relationship was statistically different between the two groups (p = .000). On the other hand, youth who opened and made deposits in their Enidaso accounts scored 0.49 points higher on their endline parental monitoring scores, contrasted with youth who opened an Enidaso account but did not make deposits. However, this relationship was not statistically significant.

Opening an Enidaso account is associated with lower parental monitoring scores, whereas depositing in an Enidaso account is associated with higher scores.

The next two questions explore whether individual characteristics had more influence on positive outcomes on both youth development and financial capability, compared to environmental characteristics. These questions are important because of their implications for interventions and programs for youth financial inclusion. How do you tailor financial inclusion interventions to produce the most beneficial outcomes for youth participants? Programs that take into account environmental characteristics alone or individual characteristics alone without understanding the interaction of these factors on youths' lives may not yield positive and beneficial results. However, understanding if programs can target cumulative factors and have a sustainable and bigger impact has implications for cost and efficiency for these much needed programs. The next two questions and subsequent analyses address these issues.

Were positive financial capability outcomes in YouthSave influenced by youth characteristics vs environmental outcomes?

This question is to investigate whether youth characteristics or environmental characteristics are more influential on positive financial capability outcomes for youth in the Ghana Youthsave experiment. Financial capability outcomes in the Ghana YouthSave experiment were direct outcomes of offering a savings account to youth in the treatment schools. Savings, money that belong to youth, opening an Enidaso account, and depositing in the Enidaso account are the outcomes discussed.

Savings

Age was significantly associated with the change in the money that youth saved from baseline to endline, controlling for gender, location, asset ownership, and living conditions. Older youth saved more money than younger youth. From baseline to endline, youth aged 12 to 14 gained 23 GHC more than youth aged 9 – 11 ($p < .01$), while the 15 to 17 year olds gained 39 GHC ($p < .001$) more than youth aged 9 to 11. Gender demonstrated a statistical trend in its association with the change in the money that youth saved. Boys gained 13 GHC more than girls ($p < .10$).

Older youth saved more money than younger youth, and experienced more increase in money belonging to them.

Again, older youth seem to save more, perhaps because of the range of income-generating opportunities that are available and accessible to older youth but not to their younger peers. In addition, multivariate results indicated that boys saved more than girls.

Money that belongs to youth

Age was significantly associated with the change in the money that belonged to youth, controlling for gender, location, asset ownership, and living conditions. From baseline to endline, youth aged 12 to 14 gained 27 GHC more than youth aged 9 to 11 ($p < .001$). Similarly, youth aged 15 to 17 gained 44 GHC more than youth aged 9 to 11 ($p < .01$). At endline, youth 15 to 17 gained 133 GHC more money compared with youth 9 to 11 years old ($p < .05$), controlling for gender, location, asset ownership, and living conditions. Other individual and environmental characteristics were not significantly associated with the amount of money that belonged to youth.

Opening an Enidaso account

Urban youth were 63% more likely to open an Enidaso account compared with rural youth, controlling for age, gender, asset ownership, and living conditions ($p < .10$). Other individual and environmental characteristics were not significantly associated with the likelihood of opening an Enidaso account.

Depositing in the Enidaso account

Based on quartiles of living conditions, youth living in the best conditions were 58% less likely to deposit in an Enidaso account compared with youth in the worst living conditions , controlling for age, gender, and asset ownership ($p < .05$). Other individual and environmental characteristics were not significantly associated with the likelihood of depositing into an Enidaso account.

What influenced positive youth development outcomes in YouthSave? Was it youth characteristics or environmental outcomes?

This question explored the differential association of youth characteristics and environmental characteristics on positive development outcomes for youth in treatment schools. Youth characteristics include age, gender, and grade level, whereas the environmental characteristics include location, living

conditions and household asset ownership. Only statistically significant youth development outcomes are discussed, which include: commitment to school, orientation toward success, uncertainty of the future, parental monitoring, and parental connection. Results suggest that age might be a risk factor for youth development outcomes and living conditions might be a protective factor.

Commitment to School

An investigation of factors influencing youth development outcomes suggested age might be a risk factor and living conditions a protective factor.

Age (at baseline) and living conditions were significantly associated with endline commitment to school scores. Older youth had lower commitment-to-school scores than younger youth, controlling for gender, location, household asset ownership, and living conditions. Youth aged 12 to 14 scored 2.79 points lower on the commitment-to-school scale compared with youth aged 9 to 11 ($p < .001$). Youth aged 15 to 17 scored 5.73 points lower on the commitment-to-school scale compared with youth aged 9 to 11 ($p < .001$). Youth aged 18 and older scored 7 points lower on the commitment-to-school scale compared with youth aged 9 to 11 ($p < .001$). These results show that older youth (in the treatment schools of the Ghana YouthSave experiment) are less committed to school than younger youth. As discussed earlier, this finding might be a function of maturation. The older youth, based on their experiences, might become despondent with life issues (e.g., question the importance of schooling) because they may perceive their realities as lacking the opportunities to succeed and benefit from their education. This relationship might also indicate youth's perception of their households' financial ability to support them for higher education, or the need to drop out of school and engage in some income generating activity instead to help support the family.

Youth from households with better living conditions scored higher on the commitment-to-school scale than youth from households with worse living conditions, controlling for age, gender, location, and asset ownership. Youth in good living conditions (second quartile) scored 2.04 points higher on the commitment- to-school scale compared with youth living in the worst conditions (lowest quartile) ($p < .01$). Youth in better living conditions (third quartile) scored 2.22 points higher on the commitment-to-school scale compared with youth in the worst living conditions (lowest quartile) ($p < .01$). Youth in the best living conditions (highest quartile) scored 2.85 points higher on the commitment-to-school scale compared with youth in the worst living conditions (lowest quartile) ($p < .01$). This relationship suggests that youth from households with more resources understand the benefits of education and envision a clear pathway to higher levels of education, which in turn, motivates them to be more engaged in school. The commitment-to-school scores increased as the living conditions of households improved. There is a direct positive relationship between living conditions and commitment to school. Another explanation could be that youth who came from households with better living conditions had the household environmental conditions that encourage youth to be more committed to school. Example of these conditions include space to read or write, lights to complete homework, books to do extra work at home, and/or parental involvement with homework and school-related activities.

Orientation toward success

Age and living conditions were significantly associated with endline orientation-toward-success scores. Older youth had lower orientation-toward-success scores than younger youth, controlling for gender, location, asset ownership, and living conditions. Youth aged 15 to 17 and youth 18 and older scored 2 points lower on orientation toward success compared with youth aged 9 to 11 ($p < .05$).

Youth from households with better living conditions scored higher on orientation toward success than youth from households with worse living conditions. Youth from the third living conditions quartile scored 1.09 points higher on orientation toward success compared with youth from the lowest living conditions quartile ($p < .05$). Youth from the highest living conditions quartile scored 1.35 points higher on orientation toward success compared with youth from the lowest living conditions quartile ($p < .05$).

Uncertainty of the future

Gender, age, and living conditions were significantly associated with endline uncertainty-of-the-future scores Girls had higher uncertainty-of-the-future scores than boys at follow up ($p = 0.026$). This finding indicates that although girls' thoughts about success improved between baseline and endline in the treatment schools, they were more uncertain of the future compared to boys.
Older youth had higher uncertainty-of-the-future scores than younger youth, controlling for gender, location, living conditions and asset ownership. Youth aged 15 to 17 scored 2.22 points higher on uncertainty of the future compared with youth aged 9 to 11 ($p < .01$), and youth aged 18 and older scored 3.33 points higher on uncertainty of the future compared with youth aged 9 to 11 ($p < .001$). In addition, age was significantly associated with the change in uncertainty-of-the-future scores. Older youth gained on their uncertainty-of-the-future scores compared with younger youth. This means that older youth had less certainty of the future compared to younger youth, and this may speak to a range of issues, including more experience in life, more realistic goals, maturity to understand life better, and to make connections of consequences.

Youth from households with better living conditions scored lower on uncertainty of the future than youth from households with the worst living conditions, controlling for age, gender, location and asset ownership. Youth from the second living conditions quartile scored 1.29 points lower on uncertainty of the future compared with youth from the lowest living conditions quartile ($p < .05$). Youth from the third living conditions quartile scored 1.49 points lower on uncertainty of the future compared with youth from the lowest living conditions quartile ($p < .05$), and youth from the highest living conditions quartile scored 2.21 points lower on uncertainty of the future compared with youth from the lowest living conditions quartile ($p < .05$).

Again, consistent with orientation toward success, age appears to be a risk factor, whereas living conditions may be a protective factor. Older youth may understand issues of life better than younger youth, therefore, they are more reflective of the future.

Similarly, youth from households with better living conditions scored lower on uncertainty of the future than youth from households with worse living conditions. This relationship might reflect the influence of tangible resources on youths' perceptions of their future. The more resources youth have, the clearer their perception and vision of the future. As might be expected, youth from households with better living conditions had higher orientation toward success and lower uncertainty of the future compared with their peers from households with worse living conditions. These relationships are consistent with the theory that resources (such as assets) influence youths' perception and vision of their future.

Parental connection

Gender and living conditions were significantly associated with endline parental-connection scores. Girls had higher endline parental-connection scores than boys ($p < .05$), controlling for age, location, asset ownership, and living conditions. Youth in the third living conditions quartile had higher endline

parental-connection scores than youth in the lowest living conditions quartile ($p < .001$), controlling for gender, age, location, and asset ownership.

These results are not surprising given that gender is a strong predictor of parental connection. Parents in certain settings work harder to connect with their daughters and ensure regular communication so that there are fewer chances of early pregnancies and other related reproductive health issues. Interestingly, those from higher living conditions had higher parental connection. This finding indicates that having more assets and resources influences parent-youth relationships, particularly around parents providing advice, support, and guidance to their children. Consistent with Sherraden's proposition (1981), asset ownership (in this case measured as the quality of living conditions) creates household stability, which in turn, reduces household stress and enables parents to positively interact with their children.

Parental monitoring

Asset ownership was associated with the change in parental-monitoring scores, controlling for gender, age, location, and living conditions. From baseline to endline, youth in the third (higher) asset ownership quartile scored 0.68 points lower on the parental-monitoring scale compared with youth in the lowest asset ownership quartile ($p < .05$). From baseline to endline, youth in the highest asset ownership quartile scored 0.70 points lower on the parental monitoring scale compared with youth in the lowest asset ownership quartile ($p < .05$). The lower parental-monitoring scores might not necessarily be an adverse outcome. Less frequent monitoring of youths' activities might indicate that parents have a higher level of trust and confidence in their children. Such an enhanced level of trust and confidence might result from a closer relationship between youth and their parents, as well as overall household stability due to better economic security and less stress within the home.

Overall, what was the most influencing factor on positive YouthSave outcomes?

This analysis explored the most important factor for positive outcomes for youth in the intervention schools in the Ghana YouthSave experiment across all the variables discussed in this report. Overall findings indicate that youth with more money performed better than youth with less money, regardless of age, gender, living conditions, and geographic locations.

Overall findings indicate that youth with more money performed better than youth with less money, regardless of age, gender, living conditions, and geographic locations.

Money that belongs to youth was the most determining factor for youth positive performance across all outcomes in the Ghana YouthSave treatment schools.

Across age groups, the more money youth gained, the higher their savings ($p = .05$), the more likely they were to open an account ($p = .05$), more likely to make deposits in the account, the more likely to set aside money (to use later) every day ($p < .05$), and to have savings goals ($p < .05$).

Across age groups, youth with more money at baseline were also more likely to remain having more money at endline. For instance, among youth, age 12 to 14, those with the most money at baseline had 174 GHC more at endline compared with youth with the least amount of money at baseline ($p < .001$). Similarly, across age groups, youth with the most money at baseline were more likely to save the most

amount of money (to use sometime later) at endline (refer to Figure 1). Conversely, youth with the least money at baseline were more likely to save the least amount at endline.

Figure 1: Gains of owning money on savings by age group

(a) Age group 9 -11 years

		Youths' savings amount (quartiles)			
		1st Q	2nd Q	3rd Q	4th Q
Youths' own money (quartiles)	1st Q	70	4	0	0
	2nd Q	10	44	3	4
	3rd Q	10	42	79	12
	4th Q	10	11	18	82

(b) Age group 12 -14 years

		Youths' savings amount (quartiles)			
		1st Q	2nd Q	3rd Q	4th Q
Youths' own money (quartiles)	1st Q	70	25	2	3
	2nd Q	2	58	28	13
	3rd Q	0	6	72	22
	4th Q	1	4	16	79

(c) Age group 15 -17 years

		Youths' savings amount (quartiles)			
		1st Q	2nd Q	3rd Q	4th Q
Youths' own money (quartiles)	1st Q	70	17	3	11
	2nd Q	3	63	22	13

	3rd Q	3	8	62	28
	4th Q	0	12	20	69

(d) Age group 18 years and above

		Youths' savings amount (quartiles)			
		1st Q	2nd Q	3rd Q	4th Q
Youths' own money (quartiles)	1st Q	71	19	5	5
	2nd Q	0	60	27	13
	3rd Q	0	25	50	25
	4th Q	0	13	7	80

Across living conditions, youth with more money at baseline (?) were more likely to set some money aside to use later and more likely to have savings goals at endline compared with youth with less money. For example, among youth in the worst living conditions (lowest quartile), youth with the most money at baseline had 202 GHC more at endline compared with youth with the least amount of money in the same (lowest living conditions) quartile ($p < .01$). In the highest living conditions quartile, youth with the most money at baseline had 142 GHC more at endline compared with youth with the least amount of money in the same (highest living conditions) quartile ($p < .01$). These findings suggest that youth with more money managed to remain having more money before and after the treatment. In addition, results indicate that youth with more money but living in poorer living conditions gained the most.

In addition, across living conditions quartiles, youth with the most money at baseline were more likely to save the most amount of money (to use sometime later) at endline. Amount of savings was determined by the amount of money that youth reported owning or having at baseline. Even for youth in the lowest living conditions quartile, the youth who had the most money at baseline saved 197 GHC more at endline compared with other youth in the same (living conditions) quartile ($p < .01$) who had less money. Assessing youth in highest living conditions quartile, those with the most money at baseline saved 116 GHC more at endline compared with youth with less money within the same (living conditions) quartile ($p < .01$). Again, it seems that youth from poorer living conditions with the most money gained the most.

This pattern was sustained even for youth development outcomes. Youth with more money gained on their orientation-toward-success, parental-connection and parental-monitoring scores from baseline to endline. For instance, among youth in the lowest living conditions quartile, those with more money (third quartile) at baseline gained 3.27 points on orientation-toward-success scores compared with youth with the least amount of money ($p < .01$). Similarly, among youth in the second living conditions quartile, youth with the most money (highest quartile) at baseline gained 1.32 points on parental-connection scores compared with youth with the least amount of money ($p < .05$). Among youth in the

second living conditions quartile, youth with the most money (highest quartile) at baseline gained 1.62 points on parental-monitoring scores compared with youth with the least amount of money ($p < .05$). Analysis within other living conditions quartiles also showed statistically significant gains for youth with more money.

Money that belongs to youth also emerged as the most influential factor across geographic locations, controlling for all other variables. Across geographic locations, youth with more money had higher savings, saved more frequently, were more likely to have savings goals, and were more likely to have more money at endline. For example, among rural youth, youth with the most money had 133 GHC more at endline compared with youth with the least amount of money ($p < .001$). Rural youth in the highest savings quartile had 203 GHC more at endline compared with rural youth with the least amount of money in the same quartile ($p < .001$). Urban youth in the highest quartile saved 175 GHC more at endline compared with youth in the lowest quartile ($p < .001$).

In sum, regardless of the barriers that rural-based youth may face with financial inclusion, those who had more money improved their outcomes and in some cases, they did even better than urban youth.

Discussion

The goal of this paper was to identify the facilitators and barriers of youth savings in the treatment schools in the Ghana YouthSave experiment. The first part of the investigation yielded results that are consistent with prior studies on savings and youth financial inclusion. We found that youth demographics (age, gender, grade level, and geographic location) and household characteristics (living conditions and asset ownership) predicted positive financial inclusion and developmental outcomes for treatment youth. In the Ghana experiment, boys saved more than girls in the treatment schools. Younger youth had the most positive development outcomes compared with older youth. However, older youth had more money than other age groups and saved more. Urban youth also had more positive outcomes than rural youth, and youth who had better living conditions did better on both financial capability and development outcomes than those who had poorer living conditions.

Results from investigations that examined location were the most reflective of what was actually happening in communities. In general, urban areas in Ghana have more access to financial institutions. This overall pattern reflects the footprint of HFC Bank, the financial institution partner in Ghana YouthSave experiment. HFC Bank branches are mostly based in urban areas and the bank has more limited outreach in rural areas. Because the schools in the experiment were randomly selected, some schools were located farther away from the centrally located urban-based HFC branches. The distance between HFC branches and some treatment schools could have affected the outreach of the bank to the more rural and remote schools. As a result, fewer youth heard of the Enidaso account in these remote schools, and consequently, fewer youth opened accounts. In addition, youth in these remotely located schools might come from lower-income households, which might exacerbate their inability to have money and to interact with HFC branches. This could also be a reflection of the economic activities in rural versus urban areas. Rural areas tend to have less economic activity that youth can engage in compared with urban areas. Further, low-income, rural households may not provide money to youth because of other financial constraints. All of these factors may have contributed to the differential outcomes between urban and rural youth.

Findings also suggest the importance of uptake (i.e., opening an account) and actual use of the account (i.e., depositing) in facilitating positive youth outcomes. Among treatment youth in the experiment, opening an account and depositing into the account are associated with higher future orientation, lower uncertainty of the future, and positive parent-youth relationships. These psychosocial outcomes are critical given their association with a wide-range of desirable behaviors, including higher academic achievement, lower risk of alcohol and drug abuse, and better money management, among others (for a review of the literature see Chowa et al., 2010; 2015). Although it is plausible that opening accounts unlock initial positive outcomes for youth, actual use of the account develops and sustains these positive outcomes. Youth might view opening the account as one step toward achieving their goals by having access to a safe and secure savings mechanism. However, depositing money into the account gives them the opportunity to make their goals a reality through the process of saving money. In other words, it is possible that opening accounts raise youths' future aspirations, whereas depositing into the accounts improves their future expectations because they realize that the accumulation of savings in their accounts can be used to achieve their goals. These explanations are consistent with propositions from the institutional theory of saving and asset building (Beverly et al., 2008), particularly the role of institutions (such as access, information, facilitation, and expectations) in shaping the worldview of individuals and households who have access to financial products and services. In sum, the use of the account should be encouraged beyond opening an account to yield positive results. One way to increase the use of savings accounts among youth is to use evidence-based nudges that incentivize regular savings, remind them of their goals, and create an expectation that saving for the future is a desirable behavior.

The second part of this paper examines which factors had more influence on financial capability outcomes and youth development outcomes. This part of the investigation is central to answering the questions of how interventions and policies could begin to identify drivers and barriers to financial inclusion and address these factors in program development to yield optimal results. Although findings indicate that different factors influence financial capability and youth development well-being, two factors (age and living conditions) have consistent effects, suggesting that these factors need to be examined further. Across the entire investigation, age as a youth characteristic and living conditions as an environmental characteristic clearly had effects on both financial capability outcomes and youth development outcomes. Age seemed to be a risk factor, whereas living conditions were a protective factor. As a result, these findings should be considered when developing financial inclusion programs.

The maturation process of youth is crucial to understanding the cognitive processes that are taking place in a young person's mind and for ensuring that these processes are employed and optimally used when programs or interventions are delivered. For the 9- to 11-year-olds, it is possible that they are still forming some of the habits of engaging in school and with friends and with parental supervision. Therefore, they are more positive about futuristic educational outcomes. They are also still at a stage where they are interested in parental attention and thus, could have higher scores on parental monitoring. On the other hand, older youth may be at a life stage where they are seeking more independence. The older youth may desire less parental connection and monitoring as a sign of independence. This self-reliance may also lead older youth to think more about various ways to generate income as they navigate issues of finances. This process could entice youth to seek menial jobs that will earn them money. Therefore, programs for older youth should emphasize enhancement of skills that will optimally facilitate youths' transition into adulthood and promote their independence.

In addition, differential findings based on age might be attributed to the varying levels of treatment exposure. For instance, 12- to 14-year-olds seem to have emerged better than other age groups on the financial capability outcomes, such as having the largest proportion of youth who saved the most. As mentioned, these differences in findings might reflect the amount of exposure to the treatment as the 12- to 14-year-old age group received the most exposure to treatment in the YouthSave experiment. Higher exposure includes the length of time in the experiment, which translates to a higher number of bank visits, more outreach, and more time to visit the bank to get acquainted with banking services.

Youth financial programs should take into account the heterogeneity within the youth population and utilize distinct strategies to increase engagement across different age groups. First, younger youth could be targeted with basic financial inclusion services, such as opening an account, basic financial education, ease of accessing an account, and encouragement to save in their accounts. In other words, financial programs for younger youth should facilitate development of fundamental skills and behaviors that will enhance their financial capability.

For older youth, apart from offering the basic financial inclusion services mentioned for the younger youth, they need wrap-around services that will help them navigate what they envision for their future. In contrast with younger youth, older youth may be thinking of higher education and how they will pay for it. Older youth may also face the reality of their grades and how their grades will facilitate or hinder their progression to higher education. In addition to higher education, older youth may begin contemplating how they can earn money, particularly if they do not see themselves transitioning to higher education. For instance, youth may think of obtaining soft and hard skills that will help them become employable. In Ghana, apprenticeship is a common option for youth to build marketable skills and social connections for employment. However, the youth who are in apprenticeship programs are those who have already dropped out of school. Facilitating skill development and providing tangible opportunities outside higher education may be important for older youth, particularly for those who do not transition to higher education and are not exposed to skill development opportunities offered by higher education. One way to deliver such services is through extra-curricular activities in schools before youth drop out of school. By the time these youth drop out of the mainstream education system, they would have gained some hard skills that will make them marketable in the labor force. Access to these programs is important in resource-limited settings, particularly for low-income youth who may not have the means to get these skills and opportunities to discuss their future and the preparation needed as they transition from adolescence to adulthood. Wrap-around services at school would help youth to address some of their fears or doubts, as well as provide a forum to discuss and learn from their peers who are experiencing similar issues. When youth development is a goal for a program, these services become very essential.

Living conditions emerged as a protective factor. Findings suggest that resources at home, such as the quality of the house, the resources within the household, and the interaction of youth with their parents influenced youth positive outcomes in the Ghana YouthSave experiment. The importance of living conditions on positive youth outcomes has an implication on programs that target youth outside or apart from their home environment and in the absence of addressing this important relationship, programs might be offering band-aid solutions. In financial inclusion programs for youth, finding ways to include parents or guardians in the programs to promote positive outcomes might be important. Inclusion of parents could mean encouraging them to interact with the banks their children are interacting with but also including them in the financial education programs being offered to youth.

Such inclusion could open opportunities for parents and guardians who previously have been excluded financially to begin to use financial services and build a stronger financial foundation for their children and for themselves. Financially-sound households may provide stable living conditions for children who will be better equipped to handle life issues as they transition to adulthood. This also underlines the importance of programming that improves the overall living conditions of the household, on youth outcomes.

The third part of this analysis yielded results that indicated that overall, money that belonged to youth was the most important factor for positive youth outcomes across all the factors considered. This finding is informative but not necessarily surprising. When youth have more money, they have greater opportunities to engage in decision-making for themselves and to become more responsible with their money. Youth engaging in financial decision-making has implications for both their money management skills and their development skills, including aspirations, expectations, planning for their future, and engaging in their education.

Our findings are consistent with prior research that has found that when youth own money, the impact on their financial capability outcomes is greater than when their parents have the money and manage it on behalf of the youth (Elliott & Beverly, 2011; Elliott,Destin, & Friedline, 2011). The youth who had more money and managed it themselves, regardless of whether they opened an account, deposited into the account and had savings goals, had more money at the endline than those who opened an account, deposited money into the account and had savings goals. This positive performance of youth with more money also suggests some form of independence in handling finances. These youth had positive outcomes regardless of external factors.

However, the question is whether these outcomes have policy implications, and the answer is yes. Aside from encouraging financial inclusion by providing access to bank accounts for youth, some form of money ownership by youth should be made possible. For youth from wealthier families, this opportunity is already a reality. However, obstacles in accessing a bank account remain for youth from low-income households. This reality may explain some of the inequality in progression to higher education between youth from wealthier families and those from low-income families. Further, policies that provide opportunities for youth financial inclusion and asset ownership may address some of the inequalities that exist. From a conceptual point of view, it makes sense that the skills and behaviors of youth who own money would be different from those who do not because of the range of the opportunities both cognitively and practically that owning money provides. Further, the independence in handling money might also mean that youth are earning this money through some jobs that provide additional benefits for the older youth because they are introduced to self-reliance.

One way to address the issue of money ownership by youth is through matched savings or other financial incentives, such as incentivizing regular attendance at school or good grades for low-income youth. Matches can also be structured progressively such that poorer households receive higher match rates than less poor households. A matched savings model would provide poor youth with money and added financial resources that may influence positive outcomes. Designing financial inclusion programs that address youths' money ownership could begin to address the inequalities that are perpetuated in society today due to lack of opportunities, living conditions, and household wealth.

Conclusion

In this analysis, having money that belongs to youth emerged as the most predictive factor associated with desirable outcomes. Youth with more money that belong to them are more likely to have positive outcomes than youth with less money that belong to them regardless of their location, gender, age, and living conditions. This finding is important for policy because it indicates that opening an account is important and provides financial inclusion. Nevertheless, policy makers also need to consider how low-income youth can be empowered to engage more in their financial lives by having and managing their own money. These additional measures might include safety nets for youth alongside financial inclusion measures, such as account opening.

Living conditions emerged to be a protective factor for youth, which is not surprising given that youth are transitioning into adulthood. Their homes are important for nurturing them and for providing environments within which they can flourish and blossom to become well-functioning adults who will contribute meaningfully to societies.

Because age was a risk factor, practitioners need to ensure that programs and interventions are developed so that services are tailored to adequately meet and address the needs of youth at different stages. Youth are not a homogenous population developmentally; their cognition, attitudes and behaviors change rapidly. Thus, designing programs for all youth without considering their developmental stages may result in positive outcomes for some but not for others, as shown in this study.

Appendix A

Gender

The analysis comparing girls and boys in the treatment schools showed that there were no significant differences on financial capability. On youth development outcomes, girls gained more on their orientation toward success than boys (p = 0.051). However, girls had higher uncertainty-of-the-future scores than boys at follow up (p = 0.026). This finding indicates that although girls' thoughts about success improved between baseline and endline in the treatment schools, they were more uncertain of the future compared to boys.

Age

The age range, 12- to 14-year-olds, had the highest percentage of youth who had heard of the Enidaso account (p = .007), highest percentage of youth who had a financial education class (p = .013), and the highest percentage in the two highest quartiles of savings (p = .000). However, the older youth had more money compared to younger youth. Developmental outcomes favored the 9- to 11-year-olds. This age range had the highest scores on commitment to school, academic self-efficacy, parental connection, and parental monitoring.

Grade level

A higher proportion of Class 6 (85%) and JHS1 Old (84%) youth reported having had a class about money at follow-up, contrasted with JHS1 New (79%, p = 0.025). This is an interesting phenomenon given that the curriculum did not change during this period of time in Ghana. If the assumption is that financial education is through the formal educational system because the government of Ghana has included financial education in the junior high school curriculum, this disparity might mean that youth are receiving financial education outside the school system. Another plausible explanation would be that given that class 6 had the longest time period in junior high school during the experiment, they might also have had the most exposure to financial education offered by junior high schools. Regardless of the source of financial education, the results indicate that the lower Class 6 had the most exposure to classes about money. A higher proportion of Class 6 (31%) and JHS1 old (37%) were in the highest savings quartile from baseline to endline compared with JHS1 New (15%). From baseline to endline, JHS1 Old set aside more money to use sometime later (28.30 GHC, p = 0.010) than Class 6. At follow-up, JHS1 Old (19.82 GHC, p = 0.052) set aside more money in a typical month than Class 6.On the contrary, JHS1 New (-15.32 GHC, p = 0.006) set aside less money than Class 6.

Living Conditions

Youth in the second quartile of living conditions had statistically significantly more money (179 GHC) that belongs to them than youth in the lowest quartile (least conducive living conditions). Analysis on household possessions demonstrated that those with the least number of possessions performed the worst. For example, youth from the third quartile (highest) of household possessions had scores 1.38 points higher than the lowest quartile (poorest) on the orientation-toward-success scale (p < .005). Youth from the highest quartile of household possession had scores 1.9 points higher on orientation toward the future than youth from the lowest quartile of household possession (p < 0.007). Youth from all three highest quartiles of household possessions had 1.1, 1.6, and 2.4 scores more on the commitment- to-school scale than the lowest quartile (p < .05, p < .01, p < .001).