

The Influence of Parental Financial Socialization on Youth's Financial Behavior: Evidence from Ghana

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Abstract How youth manage their money may influence their transitions to adulthood. This may be particularly true for youth in sub-Saharan Africa (SSA), where many youth and young adults lack access to economic opportunities. Parental financial socialization is associated with youth financial knowledge, attitudes, and behavior in research studies conducted mostly in the US, yet little is known about the financial lives of youth living in SSA. Propensity score analysis and robust standard errors with multiple regression were used to examine the relationship between parental financial socialization and youth financial behaviors among a sample of 3,623 youth ages 12–19 and a parent or other adult guardian living in eight out of 10 regions of Ghana. Findings indicated that both parent- and youth-perceived parental financial socialization was a strong and consistent predictor of youth financial behaviors, as was receipt of earned income. Practitioners interested in empowering youth through financial education and inclusion programs might consider how to involve parents and other family members in programs and capitalize on opportunities for youth to have some earned income while they learn how to manage money.

Keywords Parental financial socialization · Youth financial capability · Youth financial inclusion · Youth financial education · Parenting

Youth Financial Capability, Saving, and Developmental Outcomes

The ability to effectively manage money by making careful spending choices and saving money may help youth successfully navigate transitions to adulthood. Chowa et al. (2010) and Elliott et al. (2010) found that saving money and accumulating assets help youth access educational and entrepreneurial opportunities, and Scanlon and Adams (2009) found that saving money promotes future planning among youth. Similarly, Gutter and Copur (2011) found that positive financial behaviors such as saving were associated with financial well being among young adults. The ability to manage and save money may be especially important for youth living in sub-Saharan Africa (SSA), where well under half of girls and boys are enrolled in secondary school and formal, non-exploitative employment opportunities are scarce (United Nations Children's Fund 2011; World Bank 2009).

Financial education and inclusion are viewed as important tools of development and as a way to help youth—especially young women—in lower income countries improve their livelihoods and build assets as they transition to adult roles (United Nations Capital Development Fund [UNCDF] 2011). Throughout SSA, a wide array of financial education and inclusion strategies are being used to reach both in and out of school youth, such as traditional classroom-based financial education, radio contests, informal savings groups, and child development accounts (Child and Youth Finance International 2012; Making Cents International 2012; Meyer et al. 2010).

However, youth financial education and inclusion interventions generally do not involve parents and other adult caregivers, despite studies that have found that parents directly and indirectly influence their adolescent and

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young adult children's financial knowledge, attitudes, skills, and behavior (American Savings Education Council [ASEC] 1999; Danes 1994; Hibbert et al. 2004; Kim et al. 2011; Lyons 2004; Moschis 1985; Norvilitis and MacLean 2010; Pinto et al. 2005; Serido et al. 2010). Familism is a strong cultural norm in Ghana, where family members' actions are affected by obligations to and concern for the functioning and well-being of one's extended family and individual and family identity are inter-woven (Kuada and Chachah 1999; Yeboah 2010). Starting in their early teens, children are expected to begin giving back to their parents (Chant and Jones 2005). Thus, it is important to consider family context in understanding the financial capability of youth in Ghana and other SSA countries with similar cultural norms.

Using wave one (baseline) survey data from a cluster randomized financial inclusion experiment in Ghana that is part of the YouthSave¹ project, this exploratory, descriptive study aims to better understand the relationship between parents and other adult caregivers talking to their adolescent children about money and their adolescent children's financial behaviors. Though financial education and inclusion are considered important youth development strategies in SSA, very little research has been conducted concerning the financial lives of youth in SSA, including the role that families play. This study makes an important contribution by better understanding how parents and other adult caregivers may affect the development of financial capability among youth in SSA.

Youth Financial Knowledge, Behavior, and Access to Formal Financial Services

Studies in the US have shown that youth have low levels of financial knowledge and skills (Chen and Volpe 1998; Lusardi et al. 2010; Mandell 2008a, b), particularly youth from lower income families (Lusardi et al. 2010; Mandell 2008b). Results from qualitative studies in the US and UK have indicated that youth and young adults understood the importance of yet delayed saving in favor of short term purchases of clothing, shoes and entertainment (Pettigrew et al. 2007; Ssewamala et al. 2012).

Researchers in SSA countries have also pointed to limited financial capability among youth and young adults. Market research for the YouthStart financial inclusion project in nine SSA countries revealed that youth saved for short term, consumptive purposes, did not distinguish between needs and wants, used informal mechanisms to

save, and did not understand how banks and credit unions work (UNCDF 2011). Ansong and Gyensare (2012) found that among a sample ($N = 250$) of university students in Ghana, the youngest group (ages 20–27) had the lowest mean financial literacy scores based on a 20-item questionnaire. Oseifuah (2012) found that only 38 % of South African college students majoring in accounting were financially knowledgeable, though Oseifuah (2010) found that a small sample ($N = 39$) of young (ages 15–35) South African entrepreneurs had above average financial literacy.

In addition to limited financial knowledge and skills, access to and use of formal financial services has been found to be low among youth in lower income countries (Deshpande and Zimmerman 2010; Hirschland 2009; Nagarajan 2005), including many countries in SSA (UNCDF 2011) despite studies that have shown that youth save informally (Ansong and Chowa 2010). For example, among a sample of youth ages 15–24 ($N = 652$) in Ghana, only 18 % used a formal financial institution product or service within the prior 12 months (InterMedia 2010). The lack of financial products marketed to youth and legal barriers were found to be the primary reasons why youth in SSA have low rates of formal financial service usage despite a general inclination to save money (Ansong and Chowa 2010; UNCDF 2011).

The Influence of Parents on Youth's Financial Knowledge and Behaviors

Studies in the US have pointed to the importance of the family context in understanding youth financial capability. Studies have shown that parents are the primary sources for how youth learn about money (ASEC 1999; Charles Schwab and Company 2011; Employee Benefit Research Institute [EBRI] 2001) and several studies have found that parents affect their children's financial attitudes and behavior in direct and indirect ways (Danes 1994; Danes and Brewton 2013; Gudmunson and Beutler 2012; Hancock et al. 2013; Hibbert et al. 2004; Jorgensen and Savla 2010; Kim et al. 2011; Lyons 2004; Moschis 1985; Norvilitis and MacLean 2010; Pinto et al. 2005; Serido et al. 2010).

Testing various financial socialization processes using structural equation modeling (SEM), Shim et al. (2010) found that parental direct teaching about personal finance had a stronger effect on financial knowledge among high school students than did receipt of financial education. Jorgensen and Savla (2010) also used SEM to model parental financial socialization processes among a sample of college students. The authors found that perceived parental influence had a significant effect on financial attitudes, but not financial knowledge, and on financial behavior, as mediated by students' financial attitudes.

¹ A project funded by the MasterCard Foundation dedicated to developing and testing savings products accessible to low-income youth in Colombia, Ghana, Kenya, and Nepal.

Kim et al. (2011) found that the odds of US children (ages 12–18) saving for future education were one and a half times greater when their parents talked to them about making charitable donations. However, parents' monitoring of their children's spending was not significantly associated with children saving for future education. Wheeler-Brooks and Scanlon (2009) found that higher saving youth in a matched savings program in the US received significant financial, logistical, and emotional support from their parents while lower saving youth did not receive parental support. Parents of higher saving youth provided money for deposits, drove their children to program meetings and banks, and talked to them about why saving is important.

Analyzing DNB Household Survey data from the Netherlands, Webley and Nyhus (2006) found that parental saving and discussion of financial matters with their children were both positively associated with children's (ages 16–21) saving and that overall household saving was positively associated with children's future orientation. Webley and Nyhus (2012) also found that Dutch young adult children (ages 18–32) whose parents taught them how to budget and encouraged them to save were better able to control their spending and saved more. Conversely, Peng et al. (2007) found that among a sample of US college students, parents' savings habits were negatively associated with students' savings rates.

Most of the findings reviewed above lend support for Gudmunson and Danes' (2011) conceptual model of family financial socialization, particularly the role of purposive financial socialization efforts by parents. Though Gudmunson and Danes (2011) contended that parents teach their children about money by modeling certain financial behaviors, the evidence concerning active and deliberate attempts by parents to financially socialize their children is much stronger. Based on their critical review of 100 studies over the past 40 years, the authors concluded that family financial socialization is a more powerful determinant of financial behavior than formal financial education and that the quality of family relationships also influences children's financial behavior.

Another limitation of the literature on parental financial socialization is that most studies were conducted with samples of children, youth, and young adults in the US. Far less is known about how parents in SSA countries such as Ghana influence the financial lives of their children. Sebstad (2011) found that parents of adolescent girls in Mongolia, Kenya, Uganda, Burundi, and the Dominican Republic were very interested in financial education and having a positive influence on their children. Among a sample ($N = 132$) of Ugandan youth ages 11–17 who had lost one or both parents to HIV/AIDS, support from an influential adult was found to be strongly associated with higher saving performance. Savings performance was also

higher when the youth knew that their parents or caregivers were saving money for them, though youth who were being cared for by grandparents saved less than those who were cared for by other adult caregivers (Ssewamala et al. 2010).

Though researchers have shown there to be a relationship between parents' financial guidance and the financial knowledge, attitudes, and behaviors of their children, there is very little evidence concerning the financial lives of youth in SSA. In particular, we are not aware of any studies that have examined the relationship between parental financial socialization and youth financial behaviors in SSA. This study makes a unique contribution in assessing the financial behavior of youth in SSA and the affect that their parents and other adult caregivers have on their financial behavior.

Theoretical Grounding and Hypothesis

Whether youth are able to save money and build assets may be affected by their financial capability, which refers to financial knowledge and skills and access to and use of formal financial services, such as savings accounts with banks or credit unions (Johnson and Sherraden 2007; Sherraden 2013). This study focused on youth financial behavior as one aspect of financial capability and how parental financial socialization may affect it. Gudmunson and Danes (2011) defined purposive financial socialization as deliberate attempts by parents and other family members to influence family members' financial attitudes, knowledge, and skills, which in turn affect financial behavior and outcomes. Similarly, Jorgensen and Savla (2010) hypothesized that parental interactions shape young adult financial knowledge and attitudes, which affect how young adults use credit and manage debt.

In this study, we were interested in exploring the role that purposive financial socialization of parents and other adult caregivers has on youth's financial behavior as one aspect of financial capability. We hypothesized that among a sample of Ghanaian youth, purposive financial socialization of parents and other adult caregivers would be positively associated with youth financial behaviors.

Methods

Sample

This study used baseline (wave one) survey data from the YouthSave experiment in Ghana collected in May and June 2011. YouthSave is a 5 year demonstration project that is examining savings accounts as a tool for youth development and financial inclusion in Colombia, Ghana, Kenya,

and Nepal. The Ghana experiment is a cluster randomized study, with a follow-up data collection wave scheduled for 2014. One hundred schools were randomly selected from eight of Ghana's ten regions. A total of 100 schools were randomly assigned, resulting in 50 treatment and 50 control condition schools. In each school, 60 students were randomly selected with attrition-related oversampling, resulting in a total baseline sample of 6,252 youth and 4,576 parents and other adult caregivers who completed surveys.

Because this study assessed the influence of parental financial socialization, only observations with both a youth and a biological or adoptive parent, or legal guardian who completed survey were included. We also included observations with a youth and an aunt, uncle, or grandparent who completed the survey because in many SSA countries like Ghana, adult members of the extended family act as parental figures. It is not unusual, for example, for a youth to go live with an aunt, uncle, or grandparent in another community to access better educational opportunities. The study sample was restricted further by only including youth ages 12–19. Lastly, the study sample excluded a relatively small number of observations for both youth ($N = 178$, 4.6 % of the sample) and parents or other adult caregivers ($N = 107$, 2.9 % of the sample) whom field interviewers assessed as unable to understand survey questions, uncooperative, unable to answer questions with certainty, and/or having poor rapport with the interviewer. The final study sample included 3,623 pairs of youth and a parent or other adult caregiver.

Measures

The data for this study came from baseline responses to the YouthSave Youth (YSQ-Y) and Parent (YSQ-P) Questionnaires. These instruments were administered to study participants and their parents or guardians by the Institute for Statistical, Social, and Economic Research (ISSER) of the University of Ghana in May and June 2011. The YSQ-Y underwent several rounds of expert review and was pretested by ISSER with youth in February 2011 to ensure that youth understood questions and were able to form responses without difficulty. Based on pretest findings, YSQ-Y items were modified before the instrument was finalized.

Dependent Variable

The dependent variable used was a four item financial behavior scale from the YSQ-Y, which contained the following four items: “I pay close attention to how much money I spend,” “Before I buy something for myself, I compare prices on similar items,” “I have a plan for how to use my money,” and “I follow the plan I have for how to use my money.” The four financial behavior items were initially constructed based on measures used in prior

research on youth financial education (Danes and Brewton *n.d.*; Danes and Haberman 2007; Danes et al. 1999) and modified based on pretesting with youth in Ghana. Respondents were asked to indicate how often they engage in each of these behaviors, using a five-point likert scale with the following choices: “never,” “once in a long time,” “sometimes,” “most of the time,” and “always.” After determining that the four financial behavior items had sufficient internal consistency ($\alpha = .80$), responses to these four questions were summed to comprise a financial behavior score with a range of four to 20. Financial behavior scores were normally distributed, with a small negative skew ($-.565$) and kurtosis (2.81).

Independent Variable

The independent variable was parent-perceived parental financial socialization. This variable reflected the purposive financial socialization construct in Gudmunson and Danes' (2011) conceptual model, which is a deliberate attempt by parents and other adult caregivers to influence their children's financial behavior. On the YSQ-P, this was a single indicator: “I talk with my dependent child [*study participant*] about how we manage and make financial decisions in our family.” Response choices and frequencies were never (49 %), about once a year (2 %), about once every 6 months (3 %), about once every 2 months (5 %), about once a month (8 %), about every 2 weeks (5 %), about once every week (8 %), and almost every day (22 %). Responses were re-coded into three levels: no, low, and high financial socialization to model this independent variable as a multi-level treatment with propensity score weights (Guo and Fraser 2010; Imbens 2000) to assess the association between parental financial socialization and youth financial behavior. Responses from about once a year through about once every 2 months were re-coded as low, responses from about once a month through almost every day were re-coded as high, and “never” responses were re-coded as none.

Covariates

The following variables were used to control for factors that might affect variation in the dependent variable:

Age This was the age of youth respondents at the time of the interview, which was calculated using the year of birth. A large number of missing values on day and month of birth precluded the calculation of age using this information.

Gender Dummy variables for both youth and parents and other adult caregivers was created with 1 = male and 0 = female.

Grade Level Respondents were in one of three grade levels at the time of the survey: Primary 6, which is the last year of primary school in Ghana, and Junior High School 1 and 2, which represent the first and second years of secondary education in Ghana, respectively.

Income Income was calculated by summing the responses to five items on the YSQ-P, which asked respondents (parent or other adult caregiver) how much, in a typical month, they receive from full-time employment, part-time employment, rental income, pension or remittances, and other sources. Because this variable was heavily positively skewed (12.33) and had exceptionally high kurtosis (300.03), it was transformed by taking a natural log. However, because there were zero values for income and $\log(0)$ is undefined, we replaced these missing values with one Ghanaian Cedi, a negligible amount that was equal to 53 US cents as of February 19, 2013. A replacement value of one is the minimum value to ensure that no natural log values were negative. Upon visual inspection, this transformation produced a normal distribution for income, albeit with a negative skew (-1.24) and kurtosis of 5.85.

Region Region is a categorical variable, representing the eight out of ten regions of Ghana represented by the sample: Ashanti, Brong-Ahafo, Central, Eastern, Greater Accra, Northern Volta, and Western.

Household Appliance Assets Using an approach recommended by Filmer and Scott (2008) and Filmer and Pritchett (2001), an index was created for ownership of the following items from the YSQ-P: box iron, cell phone, electric iron, electric gas stove, kerosene stove, land phone, radio, refrigerator, and television. Principal components analysis (PCA) was used to create weights for each of the nine household items. For each item, the value for each observation was subtracted by the sample mean of the number of items divided by the sample standard deviation. The resulting value was then multiplied by the PCA coefficient. The index was calculated by summing the equation results for all nine items. The nine YSQ-P items were selected for the index to form both an indicator of household material well-being and to control for the influence of media on youth's financial capability. For example, financial literacy radio contests are sometimes held in Ghana.

Youth-Perceived Parental Financial Socialization On the YSQ-Y, youth-perceived parental financial socialization was a single indicator: "How often do your parent(s) or guardian(s) explain how they make decisions about money, e.g., spending, saving or investing money?" Response choices and frequencies were never (43 %), once in a long

time (12 %), sometimes (25 %), most of the time (14 %) and always (7 %). The same re-coding procedure described above for the YSQ-P item was followed for the parental socialization item on the YSQ-Y. Responses once in a long time and sometimes were re-coded as a low level of parental socialization, responses most of the time and always were re-coded as a high level, and "never" responses were re-coded as none.

Receipt of Earned Income A dummy variable with 1 = yes and 0 = no was created to code responses to the following question on the YSQ-Y: "How do you get money?" Youth who provided the responses "from work that I did and was paid for" and/or "I sell things" were coded as "yes". All other responses were coded as "no."

Receipt of Financial Education A dummy variable with 1 = yes and 0 = no was created to code responses to the following question on the YSQ-Y: "Have you ever had a class about money?" Interviewers were told to explain to youth that a "class about money" means classroom or group instruction and/or structured discussion about topics like budgeting, saving, investing and banking.

Data Analysis

Multivariate analysis using propensity scores as sampling weights was used to assess three levels (no, low, and high) of parent-perceived parental financial socialization on respondents' financial behaviors using an observational study design. Because the data were clustered, intra-class correlation was examined to determine whether a multi-level model was appropriate. However, only 11.2 % of the variance in the dependent variable (financial behavior scores) was at the school level. To adjust for this variance in using a single level model, robust standard errors with schools identified as clusters were used in our analyses.

Though youth did not receive an intervention in this study, we wished to assess the relationship between parental financial socialization and youth financial behavior by simulating parental financial socialization as a treatment variable. To accomplish this, we used Imben's (2000) multi-valued treatment extension of Rosenbaum and Rubin's (1983) binary treatment value approach using propensity score weighting (PSW). Using this approach, a generalized propensity score was calculated, which was the conditional probability that youth received a particular level of parental financial socialization (high, low, or none) based on observed covariates, such as gender. Propensity score weights were then created to reduce selection bias when estimating simulated treatment effects. Propensity score analysis methods helped adjust for selection bias by creating sample balance on covariates among respondents

who were differentially exposed to a treatment (Rosenbaum and Rubin 1983), which in our study was parental financial socialization.

Without using a PSA method, estimates of the effect of receiving parental financial socialization may have been biased due to selection. For example, more emphasis within families is put on educating boys than girls in Ghana (Chant and Jones 2005; Lambert et al. 2012), while in the US, studies have produced conflicting results concerning whether adolescent girls and boys talk more with their parents regarding money (Danes and Haberman 2007; Varcoe et al. 2005). Thus, both the gender of the respondent and parent or other adult caregiver may not have been balanced across treatment groups, which may have biased results.

The following steps were undertaken to implement our analysis plan, using STATA (version 12).

Missing Data

For the variables included in our analyses, only three of the 15 variables had missing values. Two of these variables had less than 1 % missing, and one had less than 2 % missing. The pattern of missing data indicated that no observations had missing data for more than one variable. Thus, the level and nature of missing data was considered negligible. Listwise deletion was used for bivariate and multivariate analyses. For example, the regress command in Stata deletes cases for which there are missing data for any of the variables in the analysis.

Propensity Score Weighting

The following three steps were taken to produce propensity score weights based on the estimated generalized propensity scores that reflect the conditional probability of multi-group assignment (Guo and Fraser 2010). First, balance checks were conducted by using multinomial logistic regressions to predict multi-group membership (high, low, or no parental financial socialization) for each covariate. Significant predictors of group membership were included in multinomial logit models to produce generalized propensity scores for parent-perceived financial socialization using the predict command in Stata.

Second, the inverses of the estimated generalized propensity scores (i.e., $1/p$ where p is the generalized propensity score) which predicted youth's probability of receiving each level of parental financial socialization were used as sampling weights (Guo and Fraser 2010; Imbens 2000). Third, covariate balance checks using multinomial logistic regression with the computed weights and robust standard errors adjusted for school clusters ($N = 100$) were conducted to determine the continued existence of

observed heterogeneity after assignment into the three levels of parental financial socialization. Following the application of the weights, group differences on all variables for parental financial socialization were no longer significant, indicating that the weighting procedure effectively reduced observed imbalance among the three levels.

The final analysis step was to regress financial behavior scores using the ordinary least squares (OLS) estimator on parental financial socialization and covariates using propensity score weights and robust standard errors to control for cluster (school) effects. Because it is recommended that the same set of covariates not be used in both the selection and outcome regression model (Freedman and Berk 2008), a smaller set of covariates was used for the outcome model by dropping parental marital status, parents' years of education, and the number of dependent children under the age of 15 in the household. To determine the consistency of results based on different analytical conditions and for different subsamples, multivariate analyses were conducted for the full sample with and without the application of propensity score weights, and for subsamples of parents only, girls, and boys.

An assumption warranting the use of propensity scores is that there is overlap for the conditional probability of receiving treatment among the dosage groups (Guo and Fraser 2010). To assess overlap to establish a common support region for propensity scores, we visually inspected box plots of propensity scores for each level for parent-perceived financial socialization and determined that there was a sufficient common support region across levels of parental financial socialization.

Results

Table 1 displays characteristics of the study sample ($N = 3,623$). The sample is fairly evenly divided by youth gender and grade level in school. Most of the youth in the sample (76.47 %) said that they had previously had a class about money, though most of them (85.94 %) said that they had received less than 5 h of financial education. Nearly a quarter of youth (22.47 %) said that they had a source of income from work or selling things, yet the most common source of income for the youth was money received from parents or guardians. The activities for which some youth receive earned income were mostly informal, part-time and/or irregular, such as helping family members sell items in the market, pulling weeds on farming plots, fetching water for neighbors, cutting firewood, and breaking stones. A greater proportion of boys (28.7 %) than girls (16.6 %) had a source of earned income.

Most parents and other adult caregivers were female (70.60 %) and married (73.97 %). Other parent and other

Table 1 Study sample description

	% or Mean (SD)
Covariate	
Respondent age	15.13 (1.77)
Respondent gender	
Male	48.03 %
Female	51.97 %
Respondent grade level	
Primary 6	35.74 %
Junior High School 1	32.43 %
Junior High School 2	31.82 %
Parent or other caregiver years of education	7.45 (5.54)
Parent or other caregiver income	206.22 (322.66) GHC
Household appliances	7.10 (4.18)
Parent or other caregiver gender	
Male	29.40 %
Female	70.60 %
Parent or other caregiver marital status	
Married	73.97 %
Separated, widowed, single, or divorced	26.03 %
Number of children under age 15 in household	2.66 (1.91)
Independent Variables	
Respondent receipt of financial education	
Yes	76.47 %
No	23.53 %
Respondent receipt of earned income:	
Yes	22.47 %
No	77.53 %
Number of respondents (number of schools)	3,623 (100)

GHC Ghanaian Cedi

adult caregiver characteristics were highly variable. The median number of years of education was nine, yet over a quarter of parents and other adult caregivers (27.15 %) said that they had no formal education. The median total number of household assets like was six, yet the total ranged from 0 to 50. Assets include properties, vehicles, appliances, and livestock. Over a quarter of households (27.3 %) had less than five such assets.

The mean financial behavior score for all youth was 14.71 ($SD = 3.77$). Scores differ based on youth characteristics. Boys ($M = 14.94$, $SD = 3.73$) had higher scores than girls ($M = 14.50$, $SD = 3.81$), $t(3,608) = 3.49$, $p < .001$. Youth who say they had a class about money ($M = 14.94$, $SD = 3.57$) had higher scores than youth who did not have a class about money ($M = 14.03$, $SD = 4.28$), $t(3,576) = 6.21$, $p < .001$. Youth who say they had a source of earned income ($M = 15.61$, $SD = 3.16$) had higher scores than youth who do not have a source of

earned income ($M = 14.45$, $SD = 3.90$), $t(3,608) = 7.74$, $p < .001$. Youth ages 16–19 ($M = 15.02$, $SD = 3.57$) had higher scores than youth ages 12–15 ($M = 14.50$, $SD = 3.89$), $t(3,608) = 4.11$, $p < .001$. Financial behavior scores also differed considerably by region $F(2, 3610) = 24.89$, $p < .001$. Scores were highest in the central region of Ghana ($M = 16.41$, $SD = 3.06$) and lowest in the western ($M = 13.39$, $SD = 4.68$) and northern ($M = 13.41$, $SD = 4.87$) regions.

Parent-perceived parental financial socialization differed on certain characteristics. There was no statistically significant difference in parent-perceived parental financial socialization by gender or age, but there was a statistically significant difference according to prior receipt of financial education and receipt of earned income. Youth who say they had a prior class about money were more likely to receive high levels of parent-perceived financial socialization $\chi^2(2, N = 3,608) = 33.49$, $p < .001$ compared to youth who did not have a class. Youth who say they had a source of earned income were more likely to receive high levels of parent-perceived financial socialization $\chi^2(2, N = 3,608) = 33.49$, $p < .001$ compared to youth without a source of earned income.

Table 2 displays the distribution of levels of parent-perceived parental financial socialization and the unadjusted mean financial behavior scores and differences. A between-subjects ANOVA shows a significant group effect $F(2, 3592) = 79.67$, $p < .001$. All post hoc comparisons between parental financial socialization levels are statistically significant. Financial behavior scores are highest in the high level group, next highest in the low level group, and lowest in the group that did not receive parental financial socialization.

In Table 3, results of multivariate analyses appear for parent-perceived financial socialization, including results with and without propensity score weights for the full sample, and subsamples of parents, girls, and boys. All analyses are conducted using robust standard errors to adjust for the clustering effects of schools.

A very similar set of statistically significant predictors of youth financial behavior scores can be seen across models

Table 2 Distribution of levels of parent-perceived parental financial socialization and unadjusted mean differences in financial behavior scores

Level of parent financial socialization	<i>n</i>	%	Financial behavior scores	
			<i>M</i>	<i>SD</i>
Never	1,771	49.09	14.02*	3.93
Low	782	21.67	14.72*	3.76
High	1,055	29.24	15.84*	3.20

* $p < .05$ using Tukey HSD pairwise, post hoc comparisons

and subsamples. Concerning our main variable of interest, parent-perceived financial socialization, high levels of socialization are a very strong and consistent predictor, associated with increases in financial behavior scores of 1.26–1.31 points, all other things being equal. Youth-perceived parental financial socialization is an even stronger predictor and is also highly consistent across models and subsamples. Both low and high levels of youth-perceived parental financial socialization were associated with significantly ($p < .001$) higher financial behavior scores. For the full sample using propensity score weights, low and high levels were associated with increases in financial behavior scores of 1.11–2.06 points, respectively, all other things being equal.

Receipt of earned income is also a consistent and significant predictor of youth financial behavior scores. Youth who had a source of earned income have financial behavior scores of between .574 and .797 points higher across models and subsamples, compared to youth without earned income, all other things being equal. Receipt of financial education was a significant predictor of higher financial behavior scores only for girls. For the full sample, after adjusting for propensity scores, receipt of financial education became statistically non-significant.

Some youth and parent or other adult caregiver characteristics were also significantly associated with financial behavior scores. Boys, youth with greater household appliance assets, and youth in the highest grade level—2nd year of junior high school—had higher financial behavior scores, all other things being equal. Other demographic factors such as household income, region, and parent or guardian gender were not associated with youth financial behavior scores.

Discussion

In this study, we find that parental financial socialization—as perceived by both parents and youth—is a strong and consistent predictor of Ghanaian youth’s financial behaviors. We also find that having earned income, more household assets, and more formal education are important predictors of youth financial behavior. Collectively, these results suggest that Ghanaian youth’s self-reported financial behaviors have multiple contextual influences, a conclusion that is consistent with prior research on the role of family financial socialization and having earned income. In contrast, receipt of financial education is only a significant predictor of girls’ financial behavior and has a weaker association than parental financial socialization and receipt of earned income. Given the popularity of formal financial education for youth around the globe, it is important to note

that other factors may have a greater effect on youth’s financial behaviors.

The Role of Parents

Consistent with Gudmunson and Danes’ (2011) critical review of the family financial socialization literature, parental financial socialization—as perceived by both parents and youth—is a stronger predictor of money management behavior than is financial education. Clearly, parents influence their children’s financial behaviors, yet as Gudmunson and Danes (2011) contend, “many seem to have ignored the idea that these forces are present both in a person’s family of origin and in their families of formation as their life course progresses” (p. 663).

Current interventions to build youth financial capability in SSA countries and elsewhere focus primarily on youth and most do not involve parents, a strategy that should be re-considered in lieu of evidence from the parental and family financial socialization literature. Williams Shanks et al. (2010) describe examples of how individual development account (IDA) programs in the US offered in a family-centered manner by offering family mentoring and counseling and services that engage multiple family members, not just the IDA holder. Based on a finding that parental support was associated with greater saving among youth in a matched savings program in the US, Wheeler-Brooks and Scanlon (2009) suggest that parental involvement be incorporated into programs that seek to build youth financial capability. Most parents of adolescent girls who were participants in a financial education and savings project in Mongolia, Kenya, Uganda, Burundi, and the Dominican Republic do not have savings accounts, do not budget their money, track their spending, or have financial goals, yet they are very interested in financial education when it was explained to them (Sebstad 2011).

Including parents in youth financial capability interventions recognizes that youth are nested within families, which are economic units comprised of financially interdependent members. This may be especially important in Ghana and other SSA countries where the extended family is an important source of identity and interdependence (Chant and Jones 2005; Kuada and Chachah 1999; Yeboah 2010). For example, 39 % of junior high school students living in rural sections of the Central region of Ghana say that their parents or guardians would rather they work to support the household than attend school. These same parents say that it is difficult to afford school supplies, uniforms, registration fees, and other education related costs for their children (Lambert et al. 2012). Thus, efforts to build financial capability of youth can and should not be disentangled from the economic challenges and goals of the family as a whole. It may be that the goals of

Table 3 Regression analyses of the association of levels of parental financial socialization on youth financial behavior scores

	Estimated regression coefficient (Robust S.E.)				
	Regression without PSA ^a	Regression with PSA ^a	Parent-only subsample	Girls only subsample	Boys only subsample
Level of parent financial socialization (ref: none)					
Low	.478 (.235)*	.476 (.235)*	.477 (.244)	.395 (.298)	.572 (.247)*
High	1.29 (.205)***	1.29 (.210)***	1.31 (.244)***	1.26 (.281)***	1.31 (.214)***
Covariate					
Respondent age	.012 (.041)	-.023 (.042)	-.056 (.048)	-.121 (.058)*	.068 (.053)
Respondent gender: male (ref: female)	.303 (.129)*	.412 (.134)**	.375 (.164)*	–	–
Respondent receipt of earned income: yes (ref: no)	.797 (.166)***	.655 (.164)***	.733 (.188)***	.689 (.253)**	.574 (.195)**
Respondent receipt of financial education: yes (ref: no)	.576 (.235)*	.420 (.238)	.461 (.246)	.616 (.269)*	.243 (.309)
Parent or guardian gender: male (ref: female)	.266 (.165)	.180 (.174)	.114 (.193)	.071 (.220)	.268 (.245)
Household appliance assets index	.169 (.042)***	.166 (.040)***	.194 (.047)***	.144 (.052)**	.182 (.052)**
Household income (log)	-.005 (.068)	.010 (.071)	-.058 (.080)	-.024 (.086)	.056 (.087)
Level of youth perceived parent financial socialization (ref: none)					
Low	1.11 (.169)***	1.11 (.162)***	1.17 (.175)***	.864 (.212)***	1.39 (.218)***
High	1.99 (.212)***	2.06 (.209)***	1.97 (.218)***	1.87 (.271)***	2.28 (.255)***
Region	.029 (.071)	.006 (.059)	.006 (.065)	.009 (.064)	.008 (.069)
Grade level (ref: Primary 6)					
Junior high school 1	.149 (.141)	.282 (.146)	.300 (.179)	.128 (.223)	.450 (.205)*
Junior high school 2	.742 (.167)***	.829 (.179)***	.709 (.201)**	.822 (.248)**	.865 (.230)***
Constant	12.00 (.906)***	12.65 (.836)***	13.45 (.874)***	14.37 (1.03)***	11.32 (1.03)***
R ²	.120	.115	.114	.093	.141
Number of respondents (# of schools)	3,505 (100)	3,505 (100)	2,675 (100)	1,829 (100)	1,676 (100)

^a Propensity score analysis; * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed test

interventions focus not just on how a youth can increase her or his chances for positive financial outcomes, but how the family as a whole can improve such odds.

Proponents of youth financial inclusion argue for sole ownership of savings accounts by youth so youth can actively manage their money and learn from this experience and to protect youth from exploitation from parents or other caregivers who might make withdrawals (Hirschland 2009; UNCDF 2012). A balance between protecting youth and promoting their autonomy and recognizing that their parents and other caregivers exert an important influence on their financial capability ought to be struck by practitioners and policy makers. For example, Hirschland (2009) suggests that youth savings accounts be setup as joint signature accounts, requiring the signatures of both the youth and her or his parent or other adult caregiver for withdrawals.

The Role of Having Earned Income

Our finding that receipt of earned income is a significant predictor of money management behaviors is consistent with Ansong and Gyensare's (2012) finding that work experience is positively correlated with financial literacy among Ghanaian college students. This finding is also consistent with researchers in the US who find positive associations between earned income and financial capability among adolescents (Alhabeeb 1996; Danes and Brewton 2013; Danes and Brewton n.d.; Kim et al. 2011; Mandell 2008b).

Youth with earned income may be better money managers because they have more opportunities to interact with money by making spending and saving decisions. In Ghana, youth receive earned income mostly from informal employment such as running errands or assisting relatives with market stalls. These youth use their earnings to help support their families and to pay for educational expenses (Chant and Jones 2005). It may be that Ghanaian youth are more careful with their money when they have earned it because they have to budget their earnings to help pay for educational costs such as registration fees and school uniforms (Akyeampong et al. 2007; Lambert et al. 2012). Practitioners interested in promoting youth financial capability might consider helping youth engage in some paid work that supports and does not interfere with their education so that youth can use their earnings to interact with banks and apply spending and saving lessons learned through financial education.

Other Factors that Influence Youth Financial Capability

We also find that household asset ownership is positively associated with youth's self-reported money management

behaviors. We offer two plausible interpretations for this finding. First, this variable may serve as a proxy for households' material well-being. Households with greater material well-being where members are engaged in more frequent and diverse financial transactions may offer youth more learning opportunities than households with lower material well-being. In Ghana, residents of more affluent urban areas such as Accra and Kumasi are more likely to use formal financial services (FinMark Trust 2010). Second, it may be that owning certain household assets such as a television or radio makes it more likely that youth will be exposed to financial information, such as advertisements from banks or financial literacy radio programs, which are increasingly common in Ghana.

Our finding that boys have significantly higher money management scores than girls is consistent with prior research that indicates gender differences in financial knowledge and behaviors among youth in SSA (UNCDF 2011). Women and adolescent girls in SSA countries (Richardson et al. 2004; Sebstad 2011; Wyatt 2011) including Ghana (Chant and Jones 2005; Poku-Boansi and Afrane 2011; Porter et al. 2007) face greater barriers than boys to economic empowerment. Adolescent girls who are expected to engage in unpaid household work and/or whose economic roles are more circumscribed than adolescent boys may have fewer opportunities to learn about money. As a result, efforts to build financial capability among youth may need to adopt gendered perspectives and strategies, such as creating "safe spaces" for adolescent girls to learn about money and use banks (Austrian and Ngurukie 2009; Erulkar and Chong 2005).

This study offers an important contribution to the academic literature because little is known about the financial knowledge, skills, attitudes, and behaviors of youth living in sub-Saharan Africa. An improved understanding of SSA youths' financial lives can help guide the design and implementation of interventions and policies aimed at promoting youth economic opportunities.

In Ghana, how youth make decisions about money can affect their educational and employment opportunities. The inability to pay for educational expenses is a factor that helps explain why many Ghanaian youth from poor families do not successfully transition from Junior to Senior High School (Akyeampong et al. 2007; Lambert et al. 2012). Ghanaian youth who do not matriculate to Senior High School must make important decisions about whether to pay apprentice fees to seek training in a craft or trade or fees to attend one of several technical and vocational education and training institutions, which vary in cost and quality (Palmer 2007). Money management behaviors thus may be an important part of youth's efforts to navigate various pathways to sustainable livelihoods as adults.

Limitations

Our study has some limitations that readers should note. First, our dependent variable is based on youth's self-reported, not observed financial behaviors. There may be a gap between what youth say they do with their money, and what they actually do. Second, we do not use an instrument with well-established reliability and validity to measure our dependent variable. Unfortunately, there is a lack of such instruments that have been cross culturally and developmentally validated for use in studies such as ours. Third, we use single item variables for parent- and youth-perceived parental financial socialization. It is likely that parental financial socialization is a more complex and multidimensional construct (Gudmunson and Danes 2011) than what we operationalize in our study. Fourth, our data are cross-sectional, therefore we do not know how the relationships that we observed in our study may vary over time. Ideally, longitudinal data could be used to understand if financial socialization and earned income will have long term impacts on youth's money management behaviors. Fifth, our findings may not generalize to youth in alternative guardianship situations, such as having an older sibling, step-sibling, sister- or brother-in-law, or cousin as a caregiver. In comparing the study sample of youth ($N = 3,623$) to the sample of alternative guardianship youth ($N = 425$) whom we exclude from this study, we find statistically significant differences on covariates such as age and guardian gender, marital status, and years of education.

Conclusion

Developing sound money management habits and saving money from an early age may help youth in Ghana and other SSA countries overcome barriers to accessing education and/or employment opportunities and to navigate important financial decisions well into adulthood. Paying for the cost of secondary education is a barrier for many Ghanaian families (Akyeampong et al. 2007; Lambert et al. 2012). Following school, costs for both formal (Palmer 2007) and informal (Hanson 2005) technical and vocational education and training may also constitute a barrier for attaining skills to secure livelihoods as adults. Thus, the ability to save and make prudent financial decisions may help reduce these barriers.

To help youth in Ghana and other SSA countries develop financial capability, it is important to consider factors other than formal financial education. Parents and other adult caregivers and having earned income also matter and should be considered in planning and implementing financial capability interventions for youth.

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