

Measuring the Effectiveness of Financial Literacy Programs in Ghana

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ABSTRACT: This paper explores the effectiveness of financial literacy programs. It further seeks to establish the relationship between financial literacy and certain demographic characteristics. This study adopted a correlational research design as the framework to examine the relationship between variables without determining cause and effect. Data were randomly collected from 235 petty traders in Kumasi central market, Ghana. The paper found that promoting and preserving public confidence in the financial sector would take much longer time than envisioned by Bank of Ghana (BoG) if the challenge posed by inadequate financial literacy is not tackled. Age and work experience were positively related to financial literacy. Also, mother's education was positively correlated with respondents' financial literacy. The findings also indicate that traders with high level of education display higher financial literacy level than non-educated ones. The study recommends that policy makers should also make sure that customers easily get access to the bank's activities related to financial education as the study has indicated that the banks' activities are not accessible.

Keywords: *Financial literacy, Effectiveness, Financial behavior, Ghana*

INTRODUCTION

The growth in products available to the consumer financial market has provided more choice and formal control over household financial decisions than ever. This has placed greater demands on consumers to be more financial literate in order to improve decision making. To this end financial literacy education is a key objective of many governments. Understanding the barriers to financial literacy is a global issue which is not necessarily affected by cultural, social or legal differences.

Financial literacy education is assumed to improve consumer behavior in relation to financial products and services.

Several empirical studies which have been conducted in developed countries such as USA and United Kingdom indicated that financial literacy is very low among youth (Mandell, 2008; Lusardi et al., 2010). Past studies also

revealed that parents influence their children's financial literacy, attitudes, and behaviors (Moschis, 1985; Danes, 1994; American Savings Education Council, 1999; Bowen, 2002; Serido et al., 2010; Shim et al., 2010). However, there is limited research and evidence to demonstrate a causal link between financial education, financial literacy and investment decision behavior in emerging economies. Thus the current paper seeks to bridge this gap.

Literature Review

Petty traders in Ghana have to overcome many challenges in order to attain financial freedom. It takes a lot more than just selling to feed themselves and families successfully. A number of issues such as time management, financial problems, sleep deprivation, social activities, and for some students taking care of

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their families, can all pose their threat to a student's academic performance.

Norman (2010) defined financial literacy as having the right set of skills, knowledge and sufficient understanding on the use of money and its importance. Financial literacy is the ability to understand finance. Such skills and knowledge helps an individual to make effective and informed decisions of their finances.

Past studies have established the impact of financial literacy on financial behavior. People with low financial literacy are more likely to have problems with debt (Lusardi and Tufano, 2009). that is to say that, without proper financial literacy, petty traders could run into debts. Study by van Rooij, Lusardi and Alessie (2007) has revealed that individuals who have low financial literacy are significantly less likely to participate in the stock market. Similarly, van Rooij et al. (2008) provided evidence of an independent and positive effect of financial literacy on wealth accumulation over and above the effect of other determinants such as income, age, education, risk tolerance, patience, and basic cognitive ability.

Financial literacy is an important component of sound financial decision-making, and many young people wish they had more financial knowledge (Lusardi et al., 2010). Professional bodies in Ghana therefore have a significant role to play in approaches to consumer protection and financial literacy amongst petty traders so they can have positive cash management attitudes before they are given loans. This positive attitude will help them to practice proper personal financial management (Dahlia et al., 2009).

Ansong (2011) investigated the level of knowledge among university freshmen business students within the University of Cape Coast, Ghana and found out that there is a widespread financial illiteracy among them.

If such result has been identified within an academic environment, it is then an imperative to assess the role of professional bodies in approaches to consumer protection and financial literacy in Ghana to help in policy formulation interventions.

There has been a rising interest in the financial literacy from academic community, international organizations and governments recently (Olga, 2011). Most of the recent studies have concentrated on the financial planning of

university students because empirical evidences have demonstrated that most of them fail to plan their expenditure and unexpectedly experience financial problems. University students report having high debt, serious credit card usage, and high stress, as well as low financial satisfaction due to the lack of financial management skills (Nellie, 2002; Norvilitis et al., 2003; Norvilitis et al., 2006).

Past studies have shown that rural dwellers exhibits lowest level of financial knowledge (Cole, Sampson and Zia, 2008). Most of these rural dwellers do not have any idea as to how much time is required for any type of bank services and issues related to the use of money (Hasanbanu, 2004). Ironically, bank practitioners and professional bodies do not find interest in educating them. Those who are financially literate acquired them from their parents (Dahlia et al., 2009; Lusardi et al., 2010). (Ramarao, 2010) posits that training of the professional bodies to learn new habits, refined skills and useful knowledge is of critical importance to improve in this direction.

Studies conducted by the Ministry of Finance over the years had shown that Ghanaians do not have adequate financial knowledge and skills to make informed judgments and decisions on management of their finances as well as understanding details of financial products and services.

Based on this national canker, National Financial Literacy Week was introduced in 2007 by the Ministry of Finance and Economic Planning to among others raise awareness and enhance public understanding of the range of products and services being offered by financial institutions. Up to date, research has shown that the problem still persists (Atafah, 2012). An interdisciplinary understanding of financial literacy and consumer protection and investment decision behavior is therefore timely as most developing countries like Ghana enter a new paradigm of financial reform in the post financial crisis era.

Conceptual Model

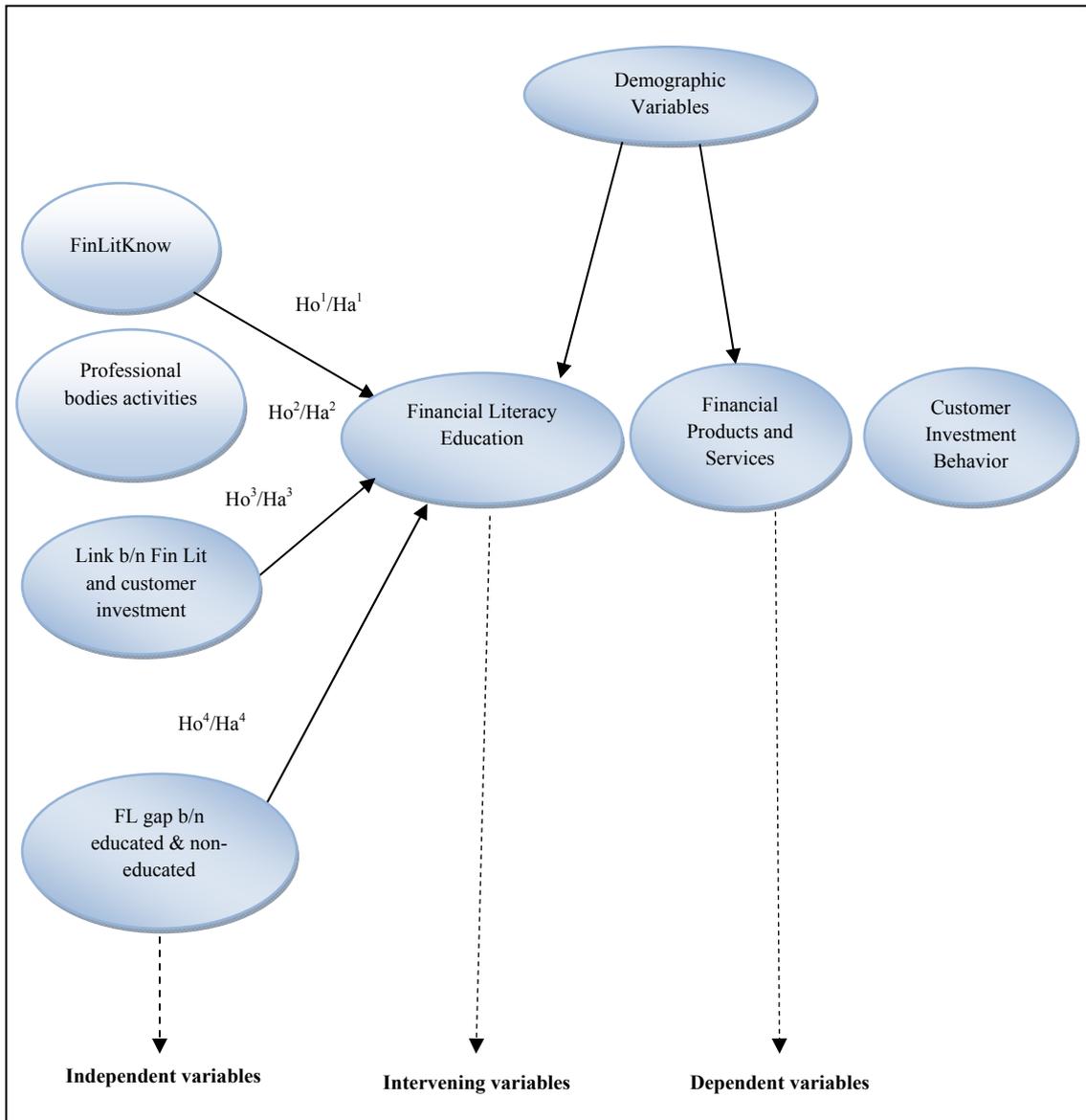


Figure 1: Conceptual model

Research Questions

Based on the above statement of problem, the current study seeks to address the following questions:

- ✓ What are the aims and objectives of financial literacy programs amongst financial services institutions in Ghana?
- ✓ To what extent do financial literacy educations improve consumer behavior in financial products and services?
- ✓ What are the causal link between financial education, financial literacy and investment decision behavior?
- ✓ What are the financial literacy gap between the educated traders and their non-educated counterparts?
- ✓ What are the qualities and capabilities of the financial planning profession in helping fill the financial literacy gap?

Significance of the Study

- ✓ To improve the financial behavior of consumers by designing effective financial literacy programs
- ✓ To educate professional bodies and bank practitioners on consumer psychological biases and limitations that they as human beings cannot easily avoid.
- ✓ To help financial services professional bodies know the evidence that demonstrates a causal link between financial education, financial literacy and investment decision behavior.

Hypotheses

Based on the literature reviewed, the following hypotheses are formulated to guide the study.

H1: Financial literacy education improves consumer behavior in relation to financial products and services.

H2: There is a significant relationship between financial literacy programs and customers' investment decision behavior.

H3: There is a causal link between petty traders' age and relevance of financial education to them.

H4: There is huge financial literacy gap between

the educated traders and their non-educated counterparts.

RESEARCH METHOD

Research Design, Participants, Sample and Procedure

This study adopted a co-relational research design as the framework because it is appropriate when attempting to examine the relationship between variables without determining cause and effect (Bluman, 2001). This type of design (Bluman, 2001) can be used to determine the magnitude and direction of the relationship between two or more quantifiable variables. Finally, the co-relational research design is not subject to the same types of threats to internal and external validity that can affect experimental research.

Questionnaire was employed as the main instrument for the data collection. Questionnaires with an introductory letter assuring participants their confidentiality were randomly administered to 235 traders in the Kumasi central market and Adum in Ghana.

Measure

Apart from respondents' demographic characteristics, 20 multiple choice items constituted the questionnaire for data collection. All items were self-developed and self-administered by the researcher. Descriptive statistics, including mean and standard deviation together with Pearson's product moment correlation were used to establish the relationships between demographic characteristics and traders' financial literacy.

Independent samples t-test was used to examine the differences in financial literacy based on respondents' gender, level of education, income and age.

ANOVA was employed to analyze the variations in traders' financial literacy across their income, gender, level of education and age category. SPSS 19.0 was used to analyze the data in this study at the 0.05 significance level.

RESULTS AND DISCUSSION

The means, standard deviations and intercorrelations for the determinants of financial literacy used in this study are detailed in Table 1. In terms of the demographic characteristics, age

($r=0.215$, $p<0.01$) and work experience ($r=0.144$, $p<0.05$) were positively related to the financial literacy of respondents. Thus, as one matures “numerically” his/her knowledge on financial issues also increases. In the same vein, it can be argued that “other things being equal”, the more acquainted an employee is to a particular job, the more experienced he/she would be and hence the likelihood that he/she will be acquainted with financial issues like wages and salaries, fringe benefits, and savings and investment. On the basis of this logic, it is hypothesized that increases in age and work experience go with knowledge accumulation based on practical life experiences and thus, both were expected to have a positive relationship with respondents’ financial literacy level. This finding is in concord with that of Chen and Volpe (1998) and Agarwal et al. (2009). According to Agarwal et al. (2009), the initial rise of participants’ financial literacy with age might be interpreted as an increase in experience, while the subsequent decline could be the result of deteriorating cognitive functions. The sample covered petty traders most of whom fall within the age category that may be described as ‘the rising in age’ (84% of the respondents were within the ages of 20-43 years). Hence, it is worth mentioning that age and work experience are both positive predictors of the traders’ financial literacy. This supports findings of previous work among college students (Lusardi et al., 2010). However, level of study ($r=-0.021$, $p>0.05$), work location ($r=-0.101$, $p>0.05$), access to media ($r=-0.043$, $p>0.05$) and the source of education on money ($r=-0.038$, $p>0.05$) were all not significantly correlated with respondents’ financial literacy.

Testing of Hypotheses

The hypotheses formulated for the purpose of

this research are directional in nature. The alternate hypothesis H1 is directional and it specifies different relationships between the variables under the study. In the testing and analysis of the hypotheses, the statistical test adopted is regression analysis and correlation.

Hypothesis 1

H1: Financial literacy education improves consumer behavior in relation to financial products and services.

Multiple Regression = 0.647^a

R Square = 0.503, Adjusted R Square = 0.476, Standard Error of the Estimate = 0.41153

a. Predictors: (Constant), Banks are not the primary sources of financial education and do not influence customer’s investment decision behavior, Banks Professional bodies educates customers on money issues, how will you rate the financial literacy education program of your bankers, my banker’s shows sincere interest in consumer protection.

Table 1 shows the model summary. It indicates how much of the variance in the dependent variable (financial literacy program) is explained by the model (which includes the variables of sources of financial education, influence of financial literacy education programs on customer’s investment decision behavior, financial education service package and consumer protection). In this case the R square value is 0.476. Expressed by a percentage, this means that the model (which includes sources of financial education, influence of financial literacy education programs, financial education service package and consumer protection) explains 47.6% of the variance in the financial literacy program effectiveness on customer investment decision behavior.

Table 1: Regression analysis (Model Summary)

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.647 ^a	0.503	0.476	0.41153

Table 2: ANOVA^b

Model	Sum of Square	df	Mean Square	F	Sig.
¹ Regression	26.808	6	5.176		
Residual	46.883	225	0.197	31.382	0.000 ^a
Total	73.691	231			

a. Predictors: (Constant), Banks are not the primary sources of financial education and do not influence customer’s investment decision behavior, Banks Professional bodies educates customers on money issues, how will you rate the financial literacy education program of your bankers, my banker’s shows sincere interest in consumer protection.

b. Dependent Variable: Effectiveness of Financial Literacy Education Program.

Since F cal (31.382) > F tab (2.37) at 0.05 level of significance, thus, H1 can be accepted and conclude that financial literacy education improves consumer behavior in relation to financial products and services customer service (table 2).

Table 3: Linear regression coefficient for customer service and financial knowledge Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	
	β	Std. Error	Beta	t		
1	(Constant)	1.787	0.156		11.469	0.000
	The bank keeps customers informed about financial frauds	0.075	0.031	0.134	2.384	0.000
	The bank shows sincere interest in solving financial problems	0.160	0.032	0.361	5.040	0.000
	The banks’ activities are accessible	0.140	0.033	0.244	4.214	0.061
	Courtesy of customer service personnel On financial matters	0.046	0.032	0.085	1.436	0.000
	Behavior of banks’ personnel instills financial confidence	0.097	0.030	0.184	3.262	0.001

a. Dependent Variable: Financial Literacy Knowledge (FinLitkKnow)

The β coefficient shows a positive relationship between customer service and financial knowledge, information about financial fraudsters, financial problem solving and courtesy of customer service personnel on financial matters. This confirms that the higher the level of these variables, the higher its

significance on financial knowledge. However, the result shows that the banks’ activities are not accessible.

Table 3 indicates which of the variables included in the model contributed to the prediction of the dependent variable. The study is interested in comparing the contribution of each independent variable; therefore beta values are used for the comparison. In table 3, the

largest beta coefficient is 0.361 indicating that the banks shows sincere interest in solving the financial problems and therefore makes strongest contribution in explaining the dependent variable-financial literacy knowledge (FinLitKnow).

Hypothesis 2

H2: There is a significant relationship between financial literacy programs and customers'

investment decision behavior.

The standard multiple regression was used to generate results that will indicate how well the set of variables representing financial literacy program has effect on investment decision behavior.

Multiple R =0.401^a

R square = 0.161; Adjusted R square = 0.142

Standard Error of the estimate =0 .59905

Table 4: Model Summary

Model	Sum of Square	df	Mean Square	F	Sig.
¹ Regression	16.276	6	4.088		
Residual	81.476	225	0.360	9.648	0.000 ^a
Total	97.752	231			

a. Dependent Variable: Financial Literacy Program

Since F cal (8.574) > F tab (2.26) at 0.05 level of significance, therefore alternative hypothesis H1 is accepted. Thus, concluding that financial literacy program has effect on customer's investment decision behavior.

The β coefficient (table 4) shows a positive relationship between financial literacy program and customer's investment decision behavior, financial fraudsters, financial problem solving and courtesy of customer service personnel on financial matters. This confirms that the higher the level of these variables, the higher its significance on financial literacy programs.

Table 5: Determination of the multiple regression equation for the data for hypothesis 2 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.467	0.227	0.162	10.852	0.000
Behavior of customer service personnel instills financial confidence	0.109	0.059	0.021	2.342	0.011
The bank has helped me learn how to make careful spending decisions	0.013	0.042	0.146	0.233	0.784
The bank has helped me learn how to save money for business expansion	0.099	0.057	0.029	2.019	0.055
The bank has helped me learn more about banking and financial institutions products and services	0.018	0.062	0.258	0.364	0.742
The bank keeps customers informed about when services will be performed	0.184	0.038	0.258	3.721	0.000

a. Dependent Variable: Banks' Financial Literacy Activities

The results from table 5 indicate that the banks does not undertake any major program aimed at educating their customers on how to make careful spending decisions, how to save money for business expansion and knowledge on

the banking and financial institutions products and services .However, the behavior of customer service personnel instills financial confidence to customers at 0.000 level of significance. This confirms that banks are not the main source of financial literacy education (Serido et al., 2010 and figure 2 below).

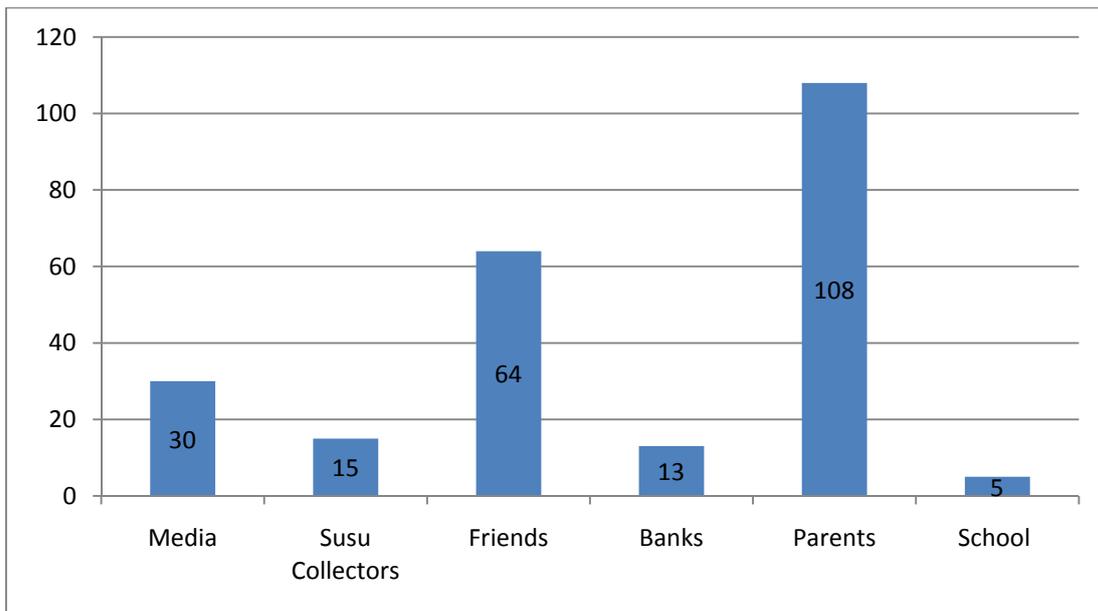


Figure 2: Sources of financial literacy education

Hypothesis 3

H3: There is a causal link between financial education, financial literacy and customer's investment decision behavior.

Table 6: Simple correlation for financial literacy knowledge (FinLitKnow) and investment decisions (InvDec)/Correlations

		FinLitKnow	InvDec
FinLitKnow	Pearson Correlation	1	386***
	Sig. (2-tailed)		000
	N	235	235
InvDec	Pearson Correlation	386***	1
	Sig. (2-tailed)	000	
	N	235	235

***Correlation is significant at the 0.01 level

Financial knowledge was found to be significantly correlated with investment decisions (InvDec)

($r=0.386$, which has a 0.000 level of significant which is less than 0.01 and 0.05 level of significant), see table 6.

There is a positive relationship between financial literacy and customers' investment decisions.

Thus the study accepts H2: Financial literacy programs has a positive correlation with

customers' investment decisions.

Relationship between Traders' Age and Relevance of Financial Education to Them

H3: There is a causal link between trader's age and relevance of financial education.

In order to ascertain whether there is a relationship between the trader's age and relevance of financial education correlation analysis was performed (table 7a).

Table 7a: Correlation between age group 18-25 and relevance of financial education

		Age of respondent (18- 25years)	I seldom think about the banks financial education to customers
Age of respondent	Pearson Correlation	1	0.054(**)
(18-25years)	Sig. (2-tailed)	.	0.000
	N	10	10

** Correlation is significant at the 0.01 level (2-tailed).

Table 7b: Correlation between age group 26-33 and relevance of financial education

		Age of respondent (26-33 years)	I seldom think about the banks financial education to customers
Age of respondent	Pearson Correlation	1	0.42(**)
(26-33years)	Sig. (2-tailed)	.	0.000
	N	31	31

** Correlation is significant at the 0.01 level (2-tailed).

The results from table 7b indicate that there is significant relationship between customers aged between 26-33 years and financial education.

Table 7c: Correlation between age group 42-49 and relevance of financial education

		Age of respondent (42- 49years)	I seldom think about the banks' financial education to customers
Age of respondent	Pearson Correlation	1	0.022(**)
(42-49years)	Sig. (2-tailed)	.	0.013
	N	89	89

** Correlation is significant at the 0.01 level (2-tailed).

The results from table 7c indicate that there is no significant relationship between traders aged between 42- 49 years and their sense of financial education with their respective banks at 0.013 with a Pearson correlation of .022. This implies that those within such age categories are not much concern about financial education.

The results from table 7d indicate that there is no significant relationship between traders aged between 50 to 59 years and their knowledge on financial matters with their respective banks at .034 with a Pearson correlation of .018. This implies that those within such age categories are not much concern

about financial education.

The findings from the above tables is in support of an empirical study which has shown that financial literacy knowledge has a major impact on youth development and requires greater study (Scanlon and Adams, 2009; Ssewamala and Ismayilova, 2009; Chowa and Ansong, 2010; Deshpande and Zimmerman, 2010; Elliott, 2012). For this reason, a number of NGOs and civil society organizations like YouthSave have come out with a project aimed at educating Ghanaian youths on financial matters. Therefore H3 is accepted.

Table 7d: Correlation between age group 50-59 and relevance of financial education

		Age of respondent (50- 57years)	I seldom think about the banks financial education to customers
Age of respondent	Pearson Correlation	1	.034(**)
(50-57years)	Sig. (2-tailed)	.	0.018
	N	12	12

** Correlation is significant at the 0.01 level (2-tailed).

Table 8: Summary of T-test analysis of financial literacy gaps based on demographic characteristics

	N	Mean	SD
Gender			
Male	92	46.89	13.41
Female	143	61.01	16.19
Level of Education			
MSLC/BECE	116	42.92	19.41
SSCE	83	44.78	13.67
Diploma	11	61.14	22.17
Cert A	3	43.05	19.82
No School	22	12.92	9.32
Total	235		
[F(4, 225)=4.375, p=0.002]			
Age			
18-25	10	41.61	11.93
26-33	31	42.66	13.12
34-41	89	49.14	15.21
42-49	93	51.02	16.15
50-57	12	48.41	12.98
[F(6, 243)=2.183, p=0.045]			

N= 235; * Significant difference occurred in means (p<0.05)

Table 8 shows that there is huge financial literacy gap between the educated traders and their non-educated counterparts. The findings indicate that traders with high level of education (Diploma, $M=61.14$, $SD=22.17$) display higher financial literacy level than non-educated ones (No school, $M=12.92$, $SD=9.32$). Thus H4 is accepted. The finding, therefore, supports previous studies (Chen & Volpe, 2002) on financial literacy.

CONCLUSION

Conventional wisdom tells us that a more informed consumer is a better one. It can be reasonably argued that when dealing with complex goods and services (such as those of a financial nature), consumer knowledge is particularly important. However, this is not the case when it comes to the use of money. This problem according to Ashraf et al. (2006) emanates from the fact that people, by nature mostly prefer current gratification over future, higher payoffs. This problem according to Lyons and Neelakantan (2008) has made it difficult to evaluate the effectiveness of financial education among the youth since such segment face an upward-sloping age-earnings profile. To overcome such difficulty, the current paper examines the investment behavior of both the young and the aged in developing countries. The paper further seeks to establish the relationship between financial literacy and certain demographic characteristics by adopting correlational research design as the framework to examine the relationship between variables without determining cause and effect. Data were randomly collected from 235 petty traders in Kumasi central market, Ghana. The paper found that promoting and preserving public confidence in the financial sector would take much longer time than envisioned by Bank of Ghana (BoG) if the challenge posed by inadequate financial literacy is not tackled.

The paper also found that age and work experience were positively related to financial literacy. Moreover, mother's education was positively correlated with respondents' financial literacy. The findings also indicate that traders with high level of education display higher financial literacy level than non-educated ones. Thus there is huge financial literacy gap between

the educated traders and their non-educated counterparts.

The implications for practitioners, financial managers, suggestions for further research and limitations of this study are discussed below.

Implications for Practitioners

This study has the following implications for practitioners initiating or currently conducting research on consumer financial literacy. First, this study suggests that policy makers should enlighten customers about the various opportunities in the financial sector in order to increase savings and investment to support growth of the economy since lack of knowledge of financial issues is preventing majority of people from accessing benefits from the sector.

Second, the policy makers should also make sure that customers easily get access to the bank's activities related to financial education as the study has indicated that the banks' activities are not accessible.

Another important implication of this study is the revelation that the growth in products available to the consumer financial market has provided more choice and formal control over household financial decisions than ever before. This should place greater demands on consumers to be more financial literate in order to improve decision making. To this end financial literacy education should be a key objective of financial services practitioners and governments.

Managerial Implications

The paper provides practical contributions for improving and managing financial literacy in developing countries. First, the higher the financial literacy, the higher the customer investment decision behavior and to improve and manage financial behavior of consumers the aims and objectives of financial literacy programs should not only seek to educate consumers about financial markets and products but highlight to individuals the psychological biases and limitations that they as human beings cannot easily avoid. This area should address the notion of individual 'financial capability'.

Second, the quality and capability of the financial planning profession in helping plug the financial literacy gap prompt a significant managerial challenges and reforms in developing

countries like Ghana as compared to developed countries like Australia (e.g. Cooper Superannuation System Review), USA (Dodd-Frank reform bill), UK (changes to the Consumer Credit Act).

Finally, product suitability for consumers is not a major concern to financial service institutions in Ghana which calls for major reforms aimed at regulating, redesigning and managing their product information offerings.

Directions for Further Research

Several future research directions exist. First, future research can use different methodologies, such as longitudinal studies, focus groups and interviews to examine the relationship between financial literacy programs and customer purchase behavior in financial service contexts. Second, the growth of the internet banking and online financial transaction will continue, and future research can replicate similar studies solely involving electronic financial literacy program, measuring actual purchase behaviors instead of intentions. This procedure is designed to understand if there is any significant difference in the knowledge of electronic financial literacy program and consumer investment behavior.

Finally, evidence exists that the relative importance and possible causal link between financial knowledge and better financial practices may differ across cultures (Hilgert, Hogarth, and Beverly, 2003). Thus, the study can be replicated in different cultures to provide cross-cultural comparisons.

Limitations

This study is not without limitations. In particular, the study was restricted to petty traders in Kumasi central market and Adum with a particular bank account in Ghana.

Consequently, this could affect the generalization of the findings. Again, capturing all scales with a single study questionnaire poses the problem of common method bias, which may have inflated the predictive relationships. Despite these limitations, the current study successfully contributes to the extant literature on financial literacy by identifying the key variables that determine the level of financial knowledge among petty traders in Ghana.

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A. Atakora

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