Effects of Financial Literacy on usage of Formal Financial Services. Does Social Proof matter? Reflections from owners of Micro Enterprises in Kenya.

ABSTRACT

Previous studies have found mixed results on the direct effects of financial literacy and behavioral factors on usage of diverse forms of financial services, (financial inclusion), suggesting that further scholarly examinations which incorporates moderating variables in the study models are required. The main objective of this study was to examine the conditional effects of social proof on the relationship between financial literacy and financial inclusion. Specific objectives examined the direct effects of the financial literacy and social proof on financial inclusion, besides testing the moderating effects of social proof, a factor acclaimed to influence may human decisions including financial matters.. Explanatory research design was adopted in order to understand the relationships between the variables under investigation. Primary data was collected using a questionnaire from a sample of 486 out of a population of 2,194 owners of licensed micro enterprises in Nairobi, Kenya. Data was analyzed using descriptive and inferential statistics. Multiple regression modelling including Process Analysis using Model 1 [1] was undertaken. The results indicated significant positive direct effects of financial literacy (β = .0906, ρ=.0374) and Social proof (β = .4652, ρ=.000) on financial inclusion. Conditional effects of social proof (β=.1266, ρ =0.0028) on the financial literacy and financial inclusion was confirmed, the effects being higher at high levels of the moderator. The study contributes to financial theory building through establishment of the moderating role of social proof on the relationship between the financial literacy and financial inclusion. Policy recommendations and areas for further studies have been outlined.

Keywords:

Financial Literacy, Financial Inclusion, Behavioral Factors, Social proof, Financial Services, Micro Enterprises.

Background

Growth of the financial service sector is generally viewed as a catalyst for economic growth at national level and a contributor to quality living at individual user level [2, 3, 4]. Consequently, policy makers both at country level and in global arenas have been driving for enhanced access, usage and improvement of quality of formal financial services (commonly referred to as financial inclusion [5]) one of the targets being to realize universal access by all members of the society by the year 2020 [6]. Indeed financial inclusion, through formal financial institutions which are service providers that are under some form of regulatory framework such as banks, insurance companies, mobile financial service providers, savings and credit societies among others [7], has been identified as a key enabler of a significant percentage of the Sustainable Development Goals (SDGs) [8]. Besides access, usage of formal financial services is one of the dimensions of financial inclusion (FI) that continues to elicit interests to both the academia and policy makers, because it is through optimal usage of the services that the benefits are realized [5, 9 ,10]. Consequently, understanding the drivers for optimal usage of FS is the central questions that attracts attention of scholars, thus the FI dimension was pursued in this article. Among the antecedents of FI that have garnered attention of are demographic factors such as age, gender, economic activity, location , educational levels , as well as service provider factors such as location of service points, prices, requirements, policies among others [7, 11, 12,13,14,15].

Literature review

The study on the relationship between the financial literacy levels of users of FS and perceptions on usage of these services is an evolving field with a number of studies having been undertaken in developed economies such as USA. Financial literacy (FL) also denoted as financial knowledge or financial education [16, 17], is generally understood to be the possession of knowledge and skills that enables individuals to understand and use financial information. The critical role of FL cannot be overemphasized in the current financial sector with increasing diversity of financial products including digital finance and governments' resolve to enhance FI [18]. FL has been theorized to have a strong positive relationship with financial decision-making on areas such as savings, investments and debt management as well as enhancing information and users' confidence that then drives demand for FS [19, 20]. Theory has it that individuals with low FL do not actively participate in financial markets, have low chances of planning for retirement, make sub-optimal financial decisions such as having high consumption rates, borrowing at higher interest rates, easily fall prey to financial scams, save less and have low capability to handle macroeconomic shocks [18, 21]. These individuals have fewer assets and participate less in the FFS markets relative to their more financially literate counterparts [21, 22, 23, 24]. Whereas a growing number of studies recognizes the place of FL in financial decision-making, contextual studies in emerging economies such as Kenya are scanty hence the journey that was pursued by this study in addition to exploring the diverse forms of measurement of the variable. This contributed to knowledge growth through extension of earlier studies such as [18, 25, 26], among others.

Behavioral finance, which is a field that recognizes the effects of psychological and social factors (human factors) on financial decision-making, continues to fill the gaps associated with conventional finance theories, whose mains downsides are their underlying assumptions such as rationality of decision makers [27, 28]. [29] suggests that there are two main categories of BFT; belief-based (cognitive deviation theories) which focuses on judgments (thoughts and perceptions) concerning risks and expected returns, and preference-based (preference theories) which concerns itself with decisions on what as well as when to trade. [27] observes that cognitive deviations can be sub-divided into four groups: heuristics, framing, emotions, and market influence. A number of studies have associated the behavioral biases with sub-optimal financial decision-making, for example, studies suggests that consumers' preference for materialism leads to higher indebtedness as is the case with lack of self-control which is an indicator of present biases which affects long term planning and accumulation of wealth [30, 31, 32]. On the contrary, positive BF such as possession of self-control, confidence in use of financial information, deliberate thinking, optimism, willingness to take informed risks have been suggested to lead to optimal usage of financial services [33, 34, 35]. In addition, Social proof (SP), which entails the tendency for individuals to be influenced by social pressure, socio-economic environment and/or to seek approval from peers, family and friends to validate their decisions or behavior has been theorized as a behavioral factor that affects financial decision making [36, 37]. Social proof theory is attributed to earlier scholars such as Festinger (1954) and has been has been widely used to explain diverse human behaviors such as returning a lost wallet , littering in a public place, donating funds to charity, deciding whether and how to commit suicide among others [38]. The relationship between financial/economic decisions and social relationships continues to garner attention given the emergence of social networking sites such as Facebook and LinkedIn, which continue to be optimized for peer-to-peer lending, crowd funding, rentals and other social commerce activities [39, 40]. Thus, this research contributed to the enrichment of behavioral finance theories with the focus being on Social proof, which despite of dearth of studies has been conjectured to have significant effects on financial decision making [41,42]. Furthermore, research on

the moderating role of social proof on the relationship between financial literacy and usage of financial services has been seldom studied, a journey that was pursued by this study.

Micro Enterprises (ME) in Kenya face a number of constraints that mainly revolves around funding, with the main sources being savings, loans from friends and family, and other informal sources. Shortage of operating funds due to increased operating expenses, declining income and losses incurred from the businesses, were main factors for closure of business [43]. On utilization of loans, the survey findings [43] were that it was more difficult for enterprises to access loans from commercial banks than from other small financial institutions. This study therefore sought to contribute to identification of factors that can enhance optimal utilization of formal financial services by owners of ME in Kenya in order to inform policy directions and theory growth.

Present Study

Taken together, the purposes of the present study were threefold. The study sought to understand the direct effects of financial literacy and social proof on usage of formal financial services (financial inclusion) by micro enterprises in Kenya. Further, the study explored the moderating effects of social proof on the relationship between financial literacy and usage of formal financial services by micro enterprises in Kenya. Thus, informed by the literature review, the present study proposed the following hypotheses:

Hypothesis 1: Financial Literacy have significant effects on usage of formal financial services
Hypothesis 2: Social proof tendencies have significant effects on usage of formal financial services
Hypothesis 3: The relationship between financial literacy and usage of formal financial services would be moderated by social proof tendencies. Further, that the moderation effects would be higher at high levels of social proof tendencies.

Consequently, the moderated model utilized by the study is as outlined in Figure 1 below. The model was further used to test direct effects as per hypotheses 1 and 2 and it incorporated demographic variables (gender, age and sector) that have been suggested to influence financial inclusion as documented in prior studies. The inclusion of the three control variables was to ensure that the study utilizes a comprehensive model for adequate analysis of the relationship between the three key variables of the study.

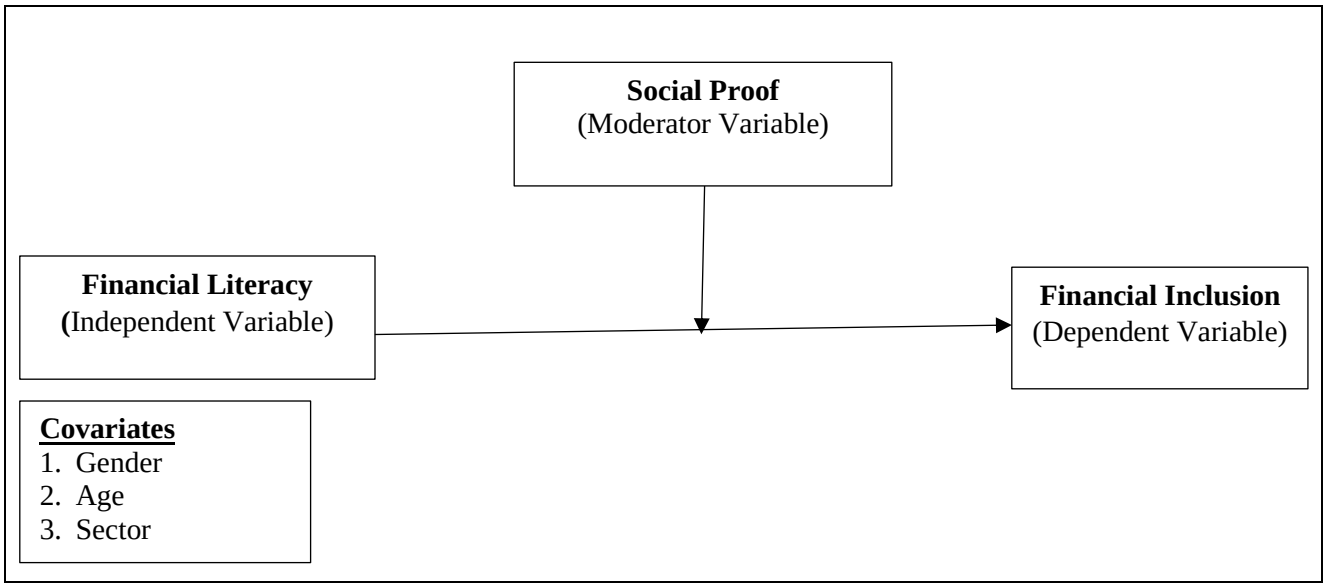

Figure1. Conceptual Framework for the Study

Methodology

Design and participants

The research philosophy adopted by the study leaned towards pragmatism paradigm [44], given that the research focused on drivers of financial inclusion, a phenomenon that is of concern to both scholars and practitioners globally. The findings of the study contributes to the discourse on factors that matter for optimal usage of formal financial services, the focus being on the relationship between users financial literacy levels, behavioral disposition (social proof) and usage of the diverse services offered in the formal financial system in Kenya.

Upon receipts of approvals to undertake the study from the relevant government authorities, primary data was collected from owners/managers of micro enterprises (ME). Participants were recruited through stratified random sampling method, through which a sample of 486 was selected out of a population of 2,194 licensed ME in Embakasi East constituency of Nairobi County, Kenya. Stratified random sampling was considered ideal sampling design since it would ensure representativeness of the sample across the five-electorate units (Wards) in the constituency. The sample size for the study was arrived at using the Yamane (1967) formulae in [45] as outlined below:

$$n = \frac{N}{1+N(e)^2}; \qquad \text{n}= \frac{2{,}194}{1+2{,}194\ (0.04)^2} = n = 486$$

Thereafter, data was successfully collected from 413 participants (85%) which was greater than 50 percent of the targeted sample, hence considered adequate for further analysis as suggested by [46].

Measurements and Models specification

Financial inclusion was measured through perceptions on usage of diverse formal financial services; payment and money transfer services, savings, credit as well as investments made through formal financial institutions (FFI). The items were selected from those in financial inclusion surveys such as

[7, 12]. Social proof was measured using various statements that gauge respondent's behavioral tendencies as regards FI (usage of financial services). The items were derived from prior studies [36, 41, 42, 47]. Financial literacy was measured using the objective method whereby participants answered questions that gauged their knowledge on risk diversification, inflation/ time value for money, numeracy, compound interest and FFI in Kenya [18, 24, 25]. The items in each of the research variables were modified to suit the data collection environment. The control variables (covariates) for the study were age (years) and gender (male/female) and the main economic activity being undertaken by the participant's business. Economic activities were categorized as manufacturing, commercial/trade as well as service and other sectors [43]. The identification of the covariates was informed by prior studies that have modelled factors that affect FI [11, 13, 37, 48].

To test hypothesis H_1 (Financial literacy has significant effects on usage of formal financial services), the study used the model outlined below:

$Y = i + \beta Gender + \beta Age + \beta Sector + b_1 Financial\ Literacy + e_Y$ …… **Equation 1**

Where; Y= Financial Inclusion; ***i*** = constant term; β coefficients of Age, Gender, Economic activity respectively in the model; b_1= regression coefficient of financial literacy in the model; and ε_Y = error term.

For hypothesis H_2 (Social proof tendencies have significant effects on usage of formal financial services), the study used the model outlined below:

$Y = i + \beta Gender + \beta Age + \beta Sector + b_1\ Social\ proof + e_Y$ …… **Equation 2**

Where; Y= Financial Inclusion; ***i*** = constant term; β coefficients of Age, Gender, Economic activity respectively in the model; b_1= regression coefficient of social proof in the model; and ε_Y = error term.

Similarly to test hypothesis 3 (The relationship between financial literacy and usage of formal financial services would be moderated by social proof tendencies), the equation below was utilized:

$Y = i + \beta Gender + \beta Age + \beta Sector + b_1\ Financial\ Literacy + b_2\ Social\ proof + b_3\ Financial\ Literacy * Social\ proof + e_Y$ …… **Equation 3**

Where; Y= Financial Inclusion; i = constant/error term; β coefficients of Age, Gender, Economic activity respectively in the model; b1= regression coefficient of financial literacy, b_2= regression coefficient of Social proof, b_3= regression coefficient of the interaction of financial literacy and Social proof in the model; and εY = error term.

Statistical Analysis

This study first calculated descriptive statistics for the variables of interest and covariates then assessed bivariate associations. Thereafter statistical analysis for the research was undertaken using Model 1 (Moderation) of Process Macro in [1] to test the relationship between financial literacy levels and financial inclusion as well as moderating effects of social proof on the relationship. The Process Macro uses bootstrapping method to test for the significance of the effects, which exists if the confidence intervals (CI) of the outcome of the resampled data. Where the CI excluded zero,

significance of the interaction between the focal predictor (financial literacy) and moderator (social proof) was imputed [49, 50, 51]. For this study, the results of the bootstrapping method were 95% bias-corrected CI of the effects arising from 10,000 resamples of the data [1] .and interpretations were made therefrom.

Results

Data screening and cleaning was undertaken to identify missing data and outliers using Cook's and Mahalanobis distances tests within SPSS. Correction was undertaken on simple outliers through winsorizing to the next highest or lowest values as appropriate to minimize impact on the research model [52].

Reliability and validity tests

Reliability of the data collection tool and the data collected therefrom was tested using Cronbach's alpha [53]. The focus was on the two variables that were measured using items that comprised of Likert type questions (usage of financial services/financial inclusion and social proof tendencies) and the results were all within the acceptable levels of 0.7 [54]. Validity test on the measurement items for each variable were undertaken using factor analysis (principal component analysis with variable maximization (Varimax). The cut off adopted were that variable items were required to load at least 0.40 with no cross loading to other components above 0.40 [55]. The results of the tests are summarized in Table 1 below. Furthermore given that multiple regression equations such as the ones adopted for the study were based on some key assumptions [1, 52] normality, linearity and heteroscedasticity tests were undertaken, their results of which were satisfactory.

Furthermore, data transformation was undertaken on the dependent (financial inclusion) and mediator (social proof) variables of the study, the results of which are presented within Table 1 together with the variable's average loadings and cumulative variances explained, all of which were above 70%.
Given that financial literacy did not use Likert type questions, the results of the objective assessment was assessed based on correct scores on the six questions for each of the respondents. The outcome of which was used for computation of descriptive statistics for the variable; Mean = 3.066; standard deviation = 1.08767, among other relevant descriptive statistics.

Table 1: Reliability and validity tests for variables measured using Likert type scales

n=413	Mean	loadings	AVE	CV%
Financial Inclusion(Cronbach's Alpha=.731, KMO=.694, Bartlett's Test of Sphericity=2063.81*, SD =0.623; Skew= 0.232)	3.00		0.83	84.84
Repayment of loans ……..	2.55	0.98		
Receiving money…….	2.66	0.96		
Making payments …….	2.67	0.96		
Saving funds .. ……..	2.67	0.90		
Obtaining loans or credit facilities such…..	3.04	0.91		
Paying for insurance and other investments….	3.23	0.85		
Receiving insurance and other benefits…..	3.62	0.83		
Social proof(Cronbach's Alpha=.915,KMO=.732,Bartlett's Test of Sphericity=2043.80*)	3.13		.75	74.70
I feel more comfortable and secure when my financial decisions ….....	3.68	.87		
I prefer to follow the patterns of my friends, relatives and co-workers ….	3.66	.86		
I am not comfortable investing and saving in groups…….	3.57	.88		
I use mobile financial services because my friends and family …….	3.55	.86		
The social- economic factors of my neighbors influence …….	3.53	.84		

**p<0.05*

Source: Research Data, 2019

Descriptive statistics and bivariate analysis

The results of descriptive and bivariate analysis undertaken on the three variables of the study are outlined in Table 2 below. The standard deviations for all the variables were not more than 1.1 indicating fewer variations in the responses. Furthermore, the results indicates that there is a positive and significant correlation between the study predictor variables and the predicted variable financial inclusion (FI).

The correlation results showed that social proof (SP) had a positive and significant moderate relationship with financial inclusion (r =.545, ρ<.01). Similarly, financial literacy had a significant and positive correlation with financial inclusion (r =.337, ρ<.01) and social proof (r =.185, ρ<.01) . Gender (r =.0.021, ρ>.01) and age (r =.007, ρ>.01) respectively showed a positive but insignificant correlation with FI whereas sector had a negative but insignificant relation with the dependent variable (r =-.001; ρ>.05). Based on the above results there is an indication of linear relationship between financial literacy and social proof on the predicted variable (financial inclusion) hence giving credence for undertaking of superior analysis through multiple regression models incorporated in Process Macro [1].

Table 2: Descriptive Statistics and Correlation Analysis

n=413	Mean	Std Dev	Skew	FI	SP	FL	Gender	Age	Sector
Financial Inclusion (FI)	2.998	.695	-.149	1					
Social Proof (SP)	3.129	.772	-.274	.545**	1				
Financial Literacy (FL)	3.066	1.087	-.025	.337**	.185**	1			
Gender	1.43	.496	.270	.021	.038	-.068	1		
Age	1.68	.745	.924	.007	.036	.026	.441**	1	
Sector	2.28	.524	.199	-.001	-.057	.051	.226**	.245**	1

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

Source: Research Data, 2019

Direct effects of the financial literacy and social proof on financial inclusion

The research had conjectured that financial literacy and social proof have significant effects on usage of formal financial services (financial inclusion) as outlined in hypotheses 1 and 2. The results provided in Table 3 below indicates positive and significant relationship between financial literacy and financial inclusion (β=.0906, ρ =0.0374).Similarly the results indicated that social proof had significant and positive effects on financial inclusion (β=.4652, ρ =0.000). Thus, the two hypotheses were upheld and it was concluded that financial literacy and social proof have significant effects in usage of formal financial services by micro enterprises in Kenya.

Moderating effects of social proof

In order to test the moderating effects of social proof tendencies on usage of formal financial services Model 1 [1] was utilized and the results are provided in Table 3 (summary) below and Table 4 (SPPS Output) as an appendix to this article. The assessment of the moderating effects of social proof on the relationship between financial literacy and financial inclusion was made through interpretation of the results provided by the interaction term *(Int_1 X*W),* which is as a result of bootstrap analysis (10,000 resamples) . The results indicates that the moderating effects of social proof on the financial literacy- financial inclusion relations, was positive and significant (β=.1266, ρ =0.0028) with a 95% confidence interval excluding zero (BootLLCI= .0438; BootULCI=.2094). The research concluded that social proof tendencies significantly moderates the relationship between financial literacy and usage of formal financial services thus supporting the suggestions in hypothesis 3.

Table 3 : Financial Literacy, Self-Control and Financial Inclusion

Model: 1 Y: ZFI, X= ZFL, W: ZSP Covariates: ZE1, ZE2 & ZE3, Sample Size: 413

Model	Coeff	Se	t	p	LLCI	ULCI
Constant	-0.0041	.0429	-.0951	.9243	-.0885	.0803
ZFL	.0906	.0434	2.0881	.0374	.0053	.1760
ZSP	.4652	.0426	10.9110	.0000	.3814	.5491
Int_1 (X*W)	.1266	.0421	3.0051	.0028	.0438	.2094
ZE1	.0092	.0479	.1925	.8474	-.0849	.1034
ZE2	-.0243	.0481	-.5049	.6139	-.1188	.0702
ZE3	-0.0024	0.0443	-0.0543	0.9567	-0.0895	0.0847

	R2-chng	F	df1	df2	P
X*W	0.0161	9.0306	1.0000	406.0000	0.0028

Model Summary:

R	0.5252
R Square	0.2758
MSE	0.7408

ANOVA; model fitness

F	25.7721
Sig.	.0000

**************Conditional effects of the focal predictor at values of the moderator**************

ZSP	Effect	SE	T	P	LLCI	ULCI
-0.9445	-0.0289	0.0594	-.4859	0.6273	-0.1457	0.0880
-0.1673	0.0695	0.0441	1.5749	0.1161	-.0172	0.1562
1.1280	0.2334	0.0637	3.6626	0.0003	.1081	0.3587

Level of confidence for all confidence intervals in output: 95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals: 10000
W values in conditional tables are the 16th, 50th, and 84th percentiles.

Source: Research Data, 2019

The labels for the variables in Table 3 above comprise of : FI = Financial Inclusion, SP= Social Proof, FL=Financial literacy, E1= Gender, E2= Age and E3= Sector.

Further probing of the results was undertaken to assess whether the moderation effects would be higher at high levels of social proof tendencies. The study utilized results of the moderation (conditional) effect of social proof at all the three levels of interactions with financial literacy (16^{th}, 50^{th}, and 84^{th} percentiles) as outlined at the bottom of Table 3. It was observed that the effects were only significant at higher levels of social proof tendencies given that the Confidence limit at 84^{th} percentile excluded zero [49.51]. The outcome of the conditional effects of social proof on the relationship between financial literacy and financial inclusion is further demonstrated in Figure 2 below. The study found out that whereas the moderated relationship exist at all levels of interactions, the effects are higher at high levels of social proof (one standard deviation above the mean) as evidenced by the steeper gradient of the upper line graph as compared to the lower levels one standard deviation below the mean. The moderation graph (Mod Graph) was computed using the online

Programme developed by [56]. The three straight lines (High, Medium and low) in figure 2 below depicts the moderation effects of social proof. Thus, hypothesis 3 was upheld and the moderated effects of social proof on the relationship between financial literacy and usage of financial services was found to be higher at high levels of the moderator.

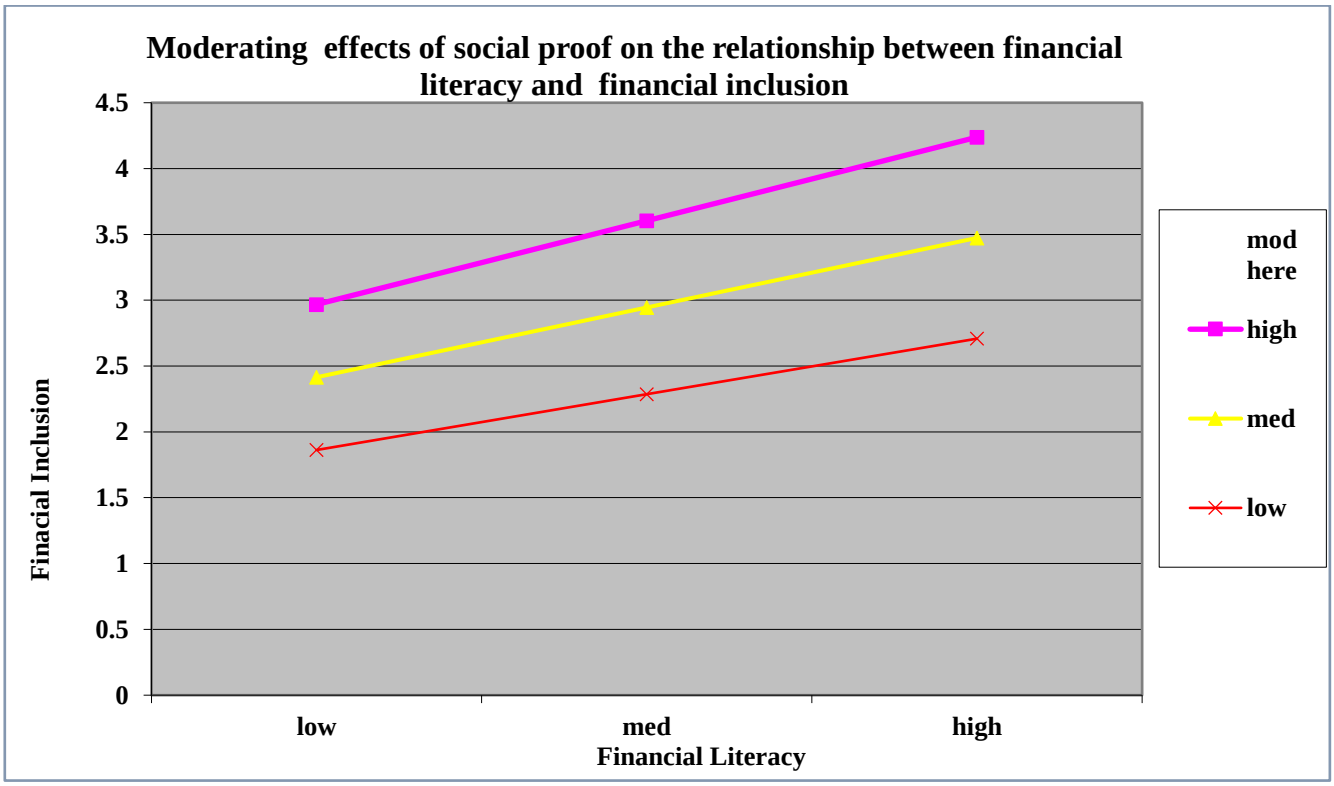

Figure 2: Moderating effects of Social Proof on FL-FI relations
Source: Research Data, 2019

Discussion, conclusion and recommendations

The impact of financial literacy on utilization of diverse forms of formal financial services, financial inclusion, continues to gain empirical interest from scholars and experts [18, 22, 24, 25, 26]. This study formulated a conditional/moderated effect model to examine whether social proof would moderate the effects of financial literacy on financial inclusion, besides testing the direct effects of predictor and moderator variables on FI. The study results indicated that both financial literacy and social proof had positive and significant effects on financial inclusion. Furthermore, Social proof was confirmed to have significant moderating effects on the financial literacy and financial inclusion relations and that the effects were higher levels at high levels of the moderator. The three findings forms the major contributions of the study, the same of which are further discussed below:

The present study is one of the first to empirically study the moderating effects of social proof in the financial literacy and financial inclusion relationship. The findings on hypotheses 1 and 2 (direct effects) progresses the previous studies that have dwelt on drivers of financial inclusion such as

financial literacy [19, 20, 57] and those from behavioral finance theories (BFT) standpoint that have focused on effects of psychological and social factors on financial decision making. In addition, the results of the third goal of the study, which demonstrates significant moderating effects of social proof on the direct relationship between financial literacy and financial inclusion, complements the growing body of knowledge that recognizes the effects of social proof as regards financial decisions albeit from direct relationship point of view [36, 40, 42] . Studies on financial services usage and decision-making that holistically incorporate financial literacy as understood from capability theory and behavioral factors as explained through BFT, have largely developed independently, hence this study in a novel way brought the two together.

The research makes diverse policy and theory recommendations are outlined herein. Firstly, it is recommended that finance experts and scholars should give due attention to the effects of social proof, a behavioral factor which was observed to have positive and significant effects on enhancement of usage of financial services both directly and conditionally through its buffering role on the financial literacy and financial inclusion relationship. Secondly, the study recommends that financial sector regulators, service providers and practitioners should consider and accord financial literacy the attention that it deserves given the findings of this study, which suggests that it is a key potential stimulant for enhanced financial inclusion. Continuous and just in time enhancement of MEs financial knowledge base will enhance optimal usage of financial services as suggested by Fernandez et al 2014 among others. Thirdly, the findings of the study indicates that the average financial literacy levels are about 50 percent amongst the owners of micro enterprises in Nairobi, Kenya. This was because they could correctly answer three out of the six questions on basic finance knowledge areas of risk diversification, inflation/ time value for money, numeracy, compound interest and knowledge of formal financial institutions. Clearly, there is a lot that needs to be done by government and financial sector players in terms of policy formulations, administration and implementation to promote financial literacy for enhanced financial inclusion, the latter of which has been duly recognized as a key enabler of for realization of national and social development goals. Finally, future studies should move beyond investigating direct effects of drivers of financial inclusion and graduate to interaction of the variables as mediators or moderators for overall understanding of the underlying linkages.

Limitations & areas for further research

A number of limitations affected the study, for example, the data utilized was cross-sectional and thus it would be prudent to find out if the relationship holds in a time series scenario. Furthermore, whereas this study focused on the interaction between the three variables (financial literacy, social proof and financial inclusion), there is need to replicate the study in other contexts outside the capital city (Nairobi) and in other countries. Similarly, other variables that affect financial inclusion should be identified on order to improve the model's R- Square value (proportion of the variance for a financial inclusion that is explained by variables deployed ; Financial literacy, social proof and control factors, in the regression model (Equation 3) beyond the of 0.2758 observed by this study. Thus, other variables including those from behavioral finance field that have been theorized to affect financial inclusion should be included in future studies. The moderating role of social proof on the financial literacy and financial inclusion relations, which was insignificant at lower levels of the moderator, requires further probing to find out why and in what circumstances the moderating effects, if any would be significant at all levels of social proof.

References

[1] Hayes, A. F. (2013). "Introduction to mediation, moderation, and conditional process analysis: A regression-based approach". Guilford Publications.

[2] Gwalani, H., & Parkhi, S. (2014). "Financial inclusion building a success model in the Indian context". Procedia-Social and Behavioral Sciences, 133, 372-378.

[3] Sethi, D., & Acharya, D. (2018). "Financial inclusion and economic growth linkage: Some cross country evidence". Journal of Financial Economic Policy, 10(3), 369-385.

[4] Sharma, D. (2016). "Nexus between financial inclusion and economic growth: Evidence from the emerging Indian economy". Journal of Financial Economic Policy, 8(1), 13-36.

[5] Jukan, M. K., & Softić, A. (2016). "Comparative analysis of financial inclusion in developing regions around the world". Economic Review: Journal of Economics and Business, 14(2), 56-65.

[6] World Bank Group. (2014). "Global financial development report 2014: Financial inclusion (Vol. 2)". World Bank Publications.

[7] Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). "Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution". Washington, DC: World Bank.

[8] World Bank. (2018). "Global Financial Development Report 2017/2018: Bankers without Borders". Washington, DC: World Bank. doi:10.1596/978-1-4648-1148-7. License: Creative Commons Attribution CC BY 3.0 IGO

[9] Beck, T. (2016). "Financial Inclusion–Measuring progress and progress in measuring. This paper was written for the Fourth IMF Statistical Forum Lifting the Small Boats: Statistics for Inclusive Growth". Cass Business School, City, University of London, CEPR, and CESifo.

[10] Singh, R., & Roy, S. (2015). "Financial Inclusion: A Critical Assessment of its Concepts and Measurement". Asian Journal of Research in Business Economics and Management, 5(1), 12.

[11] Allen, F. A., Demirguc-Kunt L., Klapper, M. S., & Peria, M. (2016). "The foundations of financial inclusion: Understanding ownership and use of formal accounts". Journal of Financial Intermediation, 27(1), 1-30.

[12] FSD (2016). "Fin Access Household Survey 2015". Retrieved from http://fsdkenya.org/publication/finaccess2016/

[13] Lanie, T. (2017). "Demand-driven determinants and self-reported barriers to financial inclusion in the West African Economic and Monetary Union (WAEMU)". Journal of Economics and International Finance, 9(11), 120-130

[14] Neaime, S., & Gaysset, I. (2018). "Financial inclusion and stability in MENA: Evidence from poverty and inequality". Finance Research Letters, Elsevier, 24(C), 230-237.

[15] Zins, A., & Weill, L. (2016)."The determinants of financial inclusion in Africa". Review of Development Finance, 6(1), 46-57.

[16] Huston, S. J. (2010). "Measuring financial literacy". Journal of Consumer Affairs, 44(2), 296-316.

[17] Lusardi, A., & Mitchell, O. S. (2014). “The Economic Importance of Financial Literacy: Theory and Evidence”. Journal of Economic Literature, American Economic Association, 52(1), 5-44.

[18] Klapper, L., Lusardi, A., & Van Oudheusden, P. (2015). “Financial literacy around the world: Insights from the Standard & Poor’s ratings services global financial literacy survey”. Retrieved from https://gflec.org/wp-content/uploads/2015/11/3313-Finlit_Report_FINAL-5.11.16.pdf?x68973

[19] Grohmann, A. (2018). “Financial literacy and financial behavior: Evidence from the emerging Asian middle class”. Pacific-Basin Finance Journal, 48, 129-143.

[20] Grohmann, A., Klühs, T., & Menkhoff, L. (2018). “Does Financial Literacy Improve Financial Inclusion?” World Development, Elsevier, 111(C), 84-96.

[21] Lusardi, A., & Mitchell, O. S. (2011). “Financial literacy around the world: an overview”. Journal of pension economics & finance, 10(4), 497-508.

[22] Cole, S., Sampson, T., & Zia, B. (2011). “Prices or knowledge? What drives demand for financial services in emerging markets?” The journal of finance, 66(6), 1933-1967

[23] Lusardi, A., Mitchell, O. S., & Curto, V. (2010). “Financial literacy among the young”. Journal of consumer affairs, 44(2), 358-380.

[24] Lusardi, A., Mitchell, O. S., & Curto, V. (2014). “Financial literacy and financial sophistication in the older population”. Journal of pension economics & finance, 13(4), 347-366.

[25] Allgood, S., & Walstad, W. B. (2016). “The effects of perceived and actual financial literacy on financial behaviors”. Economic inquiry, 54(1), 675-697.

[26] Hastings, J. S., Madrian, B. C., & Skimmyhorn, W. L. (2013). “Financial literacy, financial education, and economic outcomes”. Annu. Rev. Econ., 5(1), 347-373.

[27] Jurevičienė, D., & Ivanova, O. (2013). “Behavioral finance: theory and survey”. Science-Future of Lithuania, 5(1), 53-53.

[28] Barber, B. M., & Odean, T. (2007). “All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors”. The review of financial studies, 21(2), 785-818.

[29] Zaleskiewicz, T. (2006). “Behavioral finance. Handbook of Contemporary Behavioral Economics”, New York: Sharpe, 706-728.

[30] Ameriks, J., Andrew C., John L., & Tom T. (2007). “Measuring self-control problems”. American Economic Review, 97(3), 966-972.

[31] Lown, J. M., Kim, J., Gutter, M. S., & Hunt, A. T. (2014). “Self-efficacy and savings among middle and low income households”. Journal of Family and Economic Issues, 36(4), 491-502.

[32] Nye, P., & Hillyard, C. (2013). “Personal financial behavior: The influence of quantitative literacy and material values”. Numeracy, 6(1), 3.

[33] Benton, M., Meier, S., & Sprenger, C. (2007). “Over borrowing and under saving: Lessons and policy implications from research in behavioral economics.” Federal Reserve Bank of Boston Community Affairs Discussion Paper, 7(4).

[34] Gathergood, J. (2012). “Debt and Depression: Causal Links and Social Norm Effects”. The Economic Journal, 122(1), 1094-1114.

[35] Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). “Does self-control predict financial behavior and financial well-being?” Journal of Behavioral and Experimental Finance, 14, 30-38.

[36] Brown, J. R., Ivković, Z., Smith, P. A., & Weisbenner, S. (2008). “Neighbors matter: Causal community effects and stock market participation”. The Journal of Finance, 63(3), 1509-1531.

[37] Mehla, S., & Ghalawat, S. (2014). “Behaviour of Individuals in Everyday Financial Decisions: A study of Demographic Variables”. Parikalpana: KIIT Journal of Management, 10(1), 95.

[38] Cialdini, R. B., Wosinska, W., Barrett, D. W., Butner, J., & Gornik-Durose, M. (1999). “Compliance with a request in two cultures: The differential influence of social proof and commitment/consistency on collectivists and individualists”. Personality and Social Psychology Bulletin, 25(10), 1242-1253

[39] Lee, Eunkyoung; Lee, Byungtae; and Chae, Myungsin. “Herding Behavior In Online P2P Lending: An Empirical Investigation”. Electronic Commerce Research and Applications, vol.13, pp.495-503, 2012

[40] Liu, D., Brass, D., Lu, Y., & Chen, D. (2015). “Friendships in online peer-to-peer lending: Pipes, prisms, and relational herding”. Mis Quarterly, 39(3), 729-742.

[41] Binoy, T., & Subhashree N. (2018). “Behavioural factors that influence the continued usage of formal financial services among the low-income households”. International Journal of Mechanical Engineering & Technology, 9 (7), 22-36.

[42] Aşikoğlu, H. R., & Böyükaslan, A. (2016). “How Rational Are Individual Investors: A Factor Analysis Application In Turkey”. Kastamonu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 11(1), 23-45.

[43] KNBS (2016). “Micro, Small and Medium Establishment (MSME) Survey Basic Report”. Retrieved from https://www.knbs.or.ke/2016-micro-small-and-medium-enterprises-msme-survey-basic-report-2/

[44] Creswell, J. W. (2014). “A concise introduction to mixed methods research”. Sage Publications.

[45] Israel, G. D. (1992). “Determining sample size”. no. 1 November 15.

[46] Baruch, Y., & Holtom, B. C. (2008). “Survey response rate levels and trends in organizational research”. Human relations, 61(8), 1139-1160.

[47] Siddik, M. N. A., Sun, G., Yanjuan, C. U. I., & Kabiraj, S. (2015). “Financial inclusion through mobile banking: a case of Bangladesh”. Journal of Applied Finance and Banking, 4(6), 109.

[48] Cámara, N., Pena, X., & Tuesta, D. (2014). “Factors that matter for financial inclusion: Evidence from Peru”. (No. 1409).

[49] Borau, S., El Akremi, A., Elgaaied-Gambier, L., Hamdi-Kidar, L., & Ranchoux, C. (2015). “Analyzing moderated mediation effects: Marketing applications”. Recherche et Applications en Marketing (English Edition), 30(4), 88-128.

[50] Hayes, A. F. (2015). “An index and test of linear moderated mediation”. Multivariate behavioral research, 50(1), 1-22.

[51] Li, D., Zhou, Y., Li, X., & Zhou, Z. (2016). “Perceived school climate and adolescent Internet addiction: The mediating role of deviant peer affiliation and the moderating role of effortful control”. Computers in Human Behavior, 60, 54-61

[52] Garson, G. D. (2012). “Testing statistical assumptions”. Asheboro, NC: Statistical Associates Publishing.

[53] Cronbach, L. J. (1951). “Coefficient alpha and the internal structure of tests”. psychometrika, 16(3), 297-334.

[54] Rovai, A. P., Baker, J. D., & Ponton, M. K. (2013). “Social science research design and statistics: A practitioner's guide to research methods and IBM SPSS”. Watertree Press LLC.

[55] Sekeran, U. and Bougie, R. 6th Edition (2013). “Research Methods for Business: A Skill-Building Approach”, Wiley, New York.

[56] Jose, P.E. (2013). “ModGraph-I: A programme to compute cell means for the graphical display of moderational analyses: The internet version, Version 3.0”. Victoria University of Wellington, Wellington, New Zealand. Retrieved [01.08.19] from https://psychology.victoria.ac.nz/modgraph/

[57] Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). “Financial literacy, financial education, and downstream financial behaviors”. Journal of Management Science, 60(8), 1861-1883.

Appendixes

Table…

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : ZFI
    X  : ZFLsc
    W  : ZSP

Covariates:
 ZE1      ZE2      ZE3

Sample
Size:  413

**************************************************************************
OUTCOME VARIABLE:
 ZFI

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5252      .2758      .7408    25.7721     6.0000   406.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     -.0041      .0429     -.0951      .9243     -.0885      .0803
ZFLsc         .0906      .0434     2.0881      .0374      .0053      .1760
ZSP           .4652      .0426    10.9110      .0000      .3814      .5491
Int_1         .1266      .0421     3.0051      .0028      .0438      .2094
ZE1           .0092      .0479      .1925      .8474     -.0849      .1034
ZE2          -.0243      .0481     -.5049      .6139     -.1188      .0702
ZE3          -.0024      .0443     -.0543      .9567     -.0895      .0847

Product terms key:
 Int_1    :        ZFLsc    x        ZSP

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0161     9.0306     1.0000   406.0000      .0028
----------
    Focal predict: ZFLsc    (X)
          Mod var: ZSP      (W)

Conditional effects of the focal predictor at values of the moderator(s):

        ZSP     Effect         se          t          p       LLCI       ULCI
     -.9445     -.0289      .0594     -.4859      .6273     -.1457      .0880
     -.1673      .0695      .0441     1.5749      .1161     -.0172      .1562
     1.1280      .2334      .0637     3.6626      .0003      .1081      .3587
```

```
********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:
  95.0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----
```

Source: Research Data, 2019