Social Influence and Saving Behavior among Micro and Small Enterprise Owners in Kampala, Uganda: A Moderated Mediation Model of Financial Literacy and Self-Control

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This research uses cross-sectional data from 430 micro and small enterprise owners in Kampala, Uganda, to examine the indirect effect of financial literacy on the relationship between social influence and savings behavior. In addition, the study examines the moderating effect of self-control on the relationship between financial literacy and savings behavior, in addition to its moderating role in the relationship between social influence and saving behavior. Finally, it studies the moderating effect of self on the indirect effect of financial literacy on the relationship between social influence and saving behavior. The study is motivated by social cognitive and social capital theories. For the analysis of data, Process Macro is used. Results show that social influence significantly predicts savings behavior, and financial literacy partially mediates this relationship. Furthermore, self-control moderates the relationship between social influence and savings behavior and also the relationship between financial literacy and savings behavior. Lastly, self-control has a conditional impact on the indirect relationship between social influence and savings actions through financial literacy. Such results add new knowledge to literature and theory.

Key words: Social influence, financial literacy, saving behavior, moderated mediation

INTRODUCTION

Micro and Small Enterprises (MSEs) have been provided with credit facilities for a long time solely as a source of financing, but there has been increasing concern recently that MSEs need not only credit but also savings, so savings have risen to the top of financial services for this market. In comparison to borrowing, saving allows MSEs to transform a series of small amounts into available lump sums, and MSEs tend to save rather than borrow in real circumstances, because internal investment financing by savings is often much lower than the cost of access to credit, which in developing countries is often restricted (Atandi, Bwisa, & Sakwa, 2017). Micro and small business owners, however, frequently struggle to save, possibly because of knowledge gaps and behavioral biases, even though they have surplus. Consequently, this has contributed to the closing of several of these small businesses that contribute significantly to the GDP of a country (Abebe, Tekle, & ManoY, 2016). The annual business failure rate that currently stands...
between 30-50 percent, attributable to the limited structure of the social network and the limited
transfer of knowledge of financial management issues among MSE owners, explains this collapse
(Kampumure, 2015). In their first year of start-up, over 90 percent of MSEs collapse, while over
50 percent close shop before they celebrate their second birthday. Furthermore, it is claimed that 3
out of 5 MSEs fail within the first few months of operation and 80% fail before the fifth year. This
threat is attributed to small business owners' poor saving behavior, which in turn blocks their ease
of access to external finance, thereby restricting their operations and growth (Arinaitwe &
Mwesigwa, 2015). There is also evidence from the current literature that discussions on alternative
ways to increase funding for MSEs in Uganda have not received the attention it deserves, hence
the need to recommend from an individual behavioral perspective an alternative source of MSE
funding (Turyahikayo, 2015).

Most Ugandan small business owners' awkward actions, such as poor saving behavior, financial
indiscipline, lack of ambition and dedication to higher standards, irresponsibility, laxity and
laziness, and lack of vision, are the main factors hindering the sustainability and development of
micro and small businesses (Topa, Hernández, & Zappalà, 2018). Furthermore the researchers
indicated that Uganda's unfortunate education system that does not match the changing market
needs to pay little attention to the psychological factors that can shape an individual to contribute
to the micro and small businesses’ survival. The behavior of business owners is the key to the
survival and growth of companies.

An individual's saving activity is justified as part of any society's social environment and is
expected to be effective, thereby boosting the economy's growth and development. It is therefore
important to look at the social context in which the person lives, in order to achieve the right
saving action. Social influence (SI) is a significant direct predictor of saving activity among
individuals in Uganda, according to past studies undertaken (Homan, 2016). Depending on the
social world around them, SI includes the effect of others' actions. Social influence includes the
exercise of social power by an individual or community to alter the attitude or actions of other
individuals or groups in a particular direction (Franzoi, 2006).

Saving behavior is an inherently challenging step that requires one to be affected positively by
their social relations. In addition to the relations, the behavior requires one to have the essential
skills that include the ability to determine a saving plan in the formulation of calculations (Lusardi
& Mitchell, 2014). Therefore, the need for both positive social impact and financial literacy is
critical in order to instill and encourage effective saving behavior among people. ((Khatun, 2018);
(Jamal, Ramlan, Karim, & Osman, 2015).

Informed financial decisions are made by MSEs on savings based on knowledge and skills
acquired during training in financial literacy, which contribute significantly to improving their
entrepreneurial development. The financial experience gained helps MSEs to improve their
financial abilities and gives them the courage to make financial choices for their livelihoods
(Atandi et al., 2017). A positive relationship between financial literacy and financial results such
as saving has been developed by much research (Hilgert, Hogarth, & Beverly, 2003);(Sabri &
MacDonald, 2010). Sang et al. (2014) argue, however that FL does not have a direct effect on
financial performance, but rather causes positive attitudes towards positive financial conduct.
Therefore, FL is a good saving behavior predictor and a deterrent factor in financial difficulties.
The more knowledge of financial responsibilities and status and individual benefits, the more
money management skills are sharpened (Norvilitis & MacLean, 2010). Poor saving actions would
result in the closing of small businesses, combined with financial illiteracy. A strong financial
base for business owners has been argued to be a big barometer of the success and development of businesses in a competitive environment (Esiebugie, 2018)

Fang (2017) believes that while financial literacy alone does not guarantee the required saving behavior, it fosters behavior. Despite the attempts of countries to boost financial literacy, the saving of individuals remains a nightmare (Morgan & Trinh, 2019). This is demonstrated by the high rate of failure and stagnation of individually-owned MSEs (Sharu & Guyo, 2015). Most studies also concentrate on cognitive factors that influence saving behavior, ignoring non-cognitive factors such as self-control that may affect business owners' saving behavior (Younas et al., 2019).

The key to creating desirable or regrettable choices, whether those choices are financial or non-financial, is human psychology. If accompanied by these external factors of social influence and financial literacy, the internal psychological factors of an individual can have a significant impact on one's saving behavior, but these factors have been taken in isolation to evaluate their impact on the saving behavior of an individual (Strömbäck, Lind, Skagerlund, Västfjäll, & Tinghög, 2017); (Ningsih, Widiyanto, & Sudarma, 2018). Therefore, it is on this basis that it is necessary to determine whether self-control has a moderating role via financial literacy in the relationship between social influence and saving behavior. The following section of this paper is organized as follows: discussion of study motivating theories, empirical review, research model, methodology, findings, and consequences of the study's findings.

LITERATURE REVIEW

Social Cognitive Theory

The Social Cognitive Theory of Bandura is one of the most influential and generally recognized theories in social psychology (Bandura, 2005). The theory has expanded its reach to a range of areas, including behavioral finance. This theory emphasizes the continuing reciprocal interaction between human behavioral (cognitive) and environmental influences in understanding the mechanism of social cognitive learning (Bandura, 1989). This theory is based on the premise that by observing others one learns and this is stipulated to take place in the immediate social context of families, acquaintances, culture, and mass media. Social cognitive theory is based on the triadic mutual causation of intimate relationships that characterize human nature, psychological and environmental forces. Bandura also discusses the inborn capacity of humans that often affect human behavior, including: self-efficacy, expectations of results, self-control motivation, emotional management and observational learning (Lown, Kim, Gutter, & Hunt, 2015). This theory is more relevant to financial behavior particularly for owners of micro and small businesses, as most participants learn from their families, peers, community, society and institutions. In this study, Social Cognitive Theory focuses on all the study variables of social influence, financial literacy, self-control and behavior saving. Social cognitive theory suggests that one's behavior is influenced by interaction between observations of other people, the environment, one's own behavior and one's cognitive capacity (Bandura, 1977).

Social Capital Theory

The capacity of actors to benefit from their social networks, their private connections, and the nature of their relationships is social capital. The theory is based on three assumptions: the more networking, the greater social interaction, the greater the significance of the rule of inclusion, and the greater the social capital, the better support for the organization of problem solutions
According to Bourdieu, social capital is based on the guiding principle that the position of an individual within a particular group offers certain advantages that operate to their benefit. The theory emphasizes that people build relationship in their networks for mutual benefits (Duarte & Oliveira, 2017). People interact in groups with the aim of reciprocity and trust expectations which interactions yield mutual benefits to the members of the social context.

Social capital is based on the guiding principle, according to Bourdieu, that the role of an individual within a specific group provides certain advantages that function to their advantage. The theory stresses that people create relationships for mutual benefits in their networks(Duarte & Oliveira, 2017). People engage in groups with the goal of expectations of reciprocity and confidence that interactions offer mutual benefits to members of the social context(Duarte & Oliveira, 2017).Social networks consisting of relatives, educators, mass media, peers and other close relationships play a crucial role in influencing the eventual actions of individuals (Rios-Aguilar & Deil-Amen, 2012). Quality family relations, for example, have been characterized by mutual reciprocity and resilience of warm confidence. Family members become financially socialized by actually interacting with others in family dynamics. Children, for example, learn the importance that parents attach to particular material items, learn financial expectations for the family, and start anticipating potential financial roles as they mature. Such social networks that bind individuals are a source of common norms, values and beliefs that inform attitudes that express specific values that offer positive views on a particular activity (Palamida, 2016). Sharing and spending time with family is utmost in order to ensure appropriateness in their subsequent activities(Mohammed, Alekam, Slniza, Salleh, & Sanuri, 2018). Huat and Geetha (2010) argue that at all stages of life, social capital is important as it influences one's future well-being. Brounen, Koedijk, and Pownall (2016) further confirmed this, claiming that when people are exposed to literacy and social influences, their social capital is improved to ensure their success in life.

In addition, Okello, Ntayi, Munene, and Nkote (2016) reported that social capital can have a positive effect on educational outcomes, which in turn influence the outcomes of economic growth. Therefore, social capital is a resource that can, for a particular reason, promote access by individuals or groups to other resources (Balatti, 2007).The enforcement of the group's social standards promotes compliance among the members, requiring them to act accordingly (Duarte & Oliveira, 2017). Micro and small enterprises that create and maintain strong social networks are likely to increase funding in order to finance their operations, and the opposite is true for micro and small enterprises that do not have social network programs (Turyahikayo, 2015).

**Mediating role of financial literacy**

The development of financial knowledge, skills and the ability to make the most of them is involved in financial literacy (Lajuni, Abdullah, Bujang, & Yacob, 2018). This requires, among other things, basic numeracy skills, budgeting knowledge, and cash flow management, using limited economic resources (Abebe et al., 2016) It is not just about presenting financial knowledge and advice that financial literacy is about. It is the capacity to efficiently consider, monitor, and use financial sources to improve the well-being and economic coverage of individuals, communities and businesses. Awais, Laber, Rasheed, and Khursheed (2016) have shown that financial literacy has a significant effect on risk tolerance, savings and investment choices. It is shown that financially literate individuals would have a greater risk appetite, leading them to select risky investment assets, and are more likely to choose risky investments to make higher profits. Financial literacy is seen as a required component of one's life, short of which can lead to financial trials (Ariffin, Sulong, & Abdullah, 2017). A person can learn financial literacy
through financial lessons and workshops, seminars, and sometimes integrate financial classes into educational programs (Satsios & Hadjidakis, 2018). It is this knowledge that guides a person to make informed choices and to promote personal well-being. Recent research has provided some evidence that the level of financial literacy has an impact on wealth savings accumulation and investment choices (Hilgert et al., 2003). It is this understanding that directs an individual to make informed decisions and promote personal well-being. Recent research has shown that the degree of financial literacy affects investments in capital generation and investment decisions (Hilgert et al., 2003). In addition, by seeking to integrate healthy habits into their children parents are gradually empowering their children to make healthier choices and learn about finance. The importance of financial literacy and parental contribution is well-founded in financial socialization literature. Several studies indicate that the influence of the family is much greater than that of financial socialization by any other socialization agent. Financial literacy has been extensively researched as a mediator and some of the results include the effect of financial attitude, financial socialization and financial experience on financial management actions with financial literacy as the mediation variable by Ameliawati and Setiyani (2018) where the presence of a positive impact of Financial Attitude on Financial Management Behavior through Financial Literacy, was identified. Furthermore the research by Xiao and Porto (2017) on Financial Education and Financial Satisfaction: Financial Literacy, Behavior and Capability as Mediators. It is on this basis that this study makes use of financial literacy as a mediator.

Moderating role of self-control

Self-control in situations involving a simple trade-off between long-term goals and immediate gratification is the self-regulation mechanism (Bernheim, Ray, & Yeltekin, 2015). Self-control was described by J. H. Kim and Park (2015) as the degree to which the self-awareness of an individual has control over events and ongoing circumstances and represents the perception of the ability to cope with them. Self-control is deliberate self-regulation, according to Vitell et al. (2009), which provides an individual with the capacity to act morally by overcoming one's inclination to behave poorly. Usually, self-control is expressed as one's ability to break bad habits, avoid temptations and conquer first impulses (Fujita & Han, 2009). J. H. Kim and Park (2015) agreed that a sense of control is important for psychological adaptation, which has been shown to be the best indicator of a person's ability to perform actions aimed at achieving the desired goal by taking action. Social influence is one of the main influences correlated with individual actions because it provides a training ground for behavior. This is achieved by modifying behaviors, motives, and rationalizations that facilitate a particular activity and thereby create opportunities for specific actions to be taken. Self-control also leads to actions beyond the influence of the family, meaning that self-control is an important facilitator in behavioral research.

As far as the moderating role is concerned, extensive research has used self-control as a moderator. For instance, a study by Mobarak, Juhari, Yaacob, and Esmaeili (2017) on the moderating role of self-control in the relationship between peer affiliation and antisocial behavior of adolescents in Tehran, Iran, where self-control significantly moderated the relationship between peer affiliation and antisocial behavior of adolescents. Other studies that have used self-control as a moderator include a study by Yi, Gentzler, Ramsey, and Root (2016) on the moderating role of self-control connecting maternal socialization of positive emotions with children's behavioral problems, and a study by Nepomuceno and Laroche (2017) on when materialists plan to avoid consumption: The moderating role of self-control and long-term orientation. On this basis, self-control has been used to assess its moderating effect on the relationship between social influence and saving actions as a moderator.
The current study

The key objectives of this analysis are three-fold. First, we wanted to examine whether financial literacy can mediate the relationship between social influence and saving behavior among micro- and small business owners in Kampala, Uganda. Second, the study investigated the moderating impact of self-control on the relationship between social influence, financial literacy and saving behavior. Finally, the study combined research questions to form a moderate mediation model that as Hayes (2018) suggests, can address both mediations (how social influence contributes to saving behavior through financial literacy) and moderation mechanisms (under what condition) that underlie the relationship between social influence and saving behavior.

Figure 1 demonstrates the study's conceptual model. This study suggests the following hypotheses, based on the literature review:

H1: financial literacy mediates the relationship between social influence and saving behavior.
H2: Self-control moderates the relationship between financial literacy and saving behavior
H3: Self-control moderates the relationship between social influence and saving behavior
H4: Self-control moderates the relationship between social influence and savings behavior through financial literacy

Figure 1. Conceptual Framework
Source: Model 15 adopted and modified from Hayes, 2013
METHODOLOGY

Research design

The study used a cross-sectional research approach in conjunction with quantitative analysis in order to examine the interaction effect of self-control in the relationship between financial literacy and the saving conduct of micro- and small business owners in Kampala, Uganda. The data was gathered at one point in time to answer the hypotheses developed under this study. For this study, the owners of micro and small businesses in Kampala, Uganda, were chosen because Kampala is endowed as the central business district of the country with many of these businesses.

Population and sample

A total population of 46,270 owners of micro and small businesses was based on this report based on the Uganda Bureau of Statistics Registry (2019) in Kampala, Uganda. Consequently, the sample for this analysis was taken from the micro and small enterprises of the administrative units selected in Kampala, Uganda. Using the formula proposed by Yamane (1973), this research sample was determined. The average sample was determined using the following formula: 
\[ n = \frac{N}{1 + N \times e^2} \]
\( n \) is the sample size; \( N \) is the total population; \( e \) is the tolerable error (0.048). A full sample of four hundred and thirty (430) owners of micro and small businesses was to be selected for the analysis inside Kampala. Of the 430 questionnaires given to these business owners, 405 were filled in and returned, leading to a response rate of 94 percent. This was accomplished since information was obtained by means of self-administered questionnaires. In this survey, three (3) questionnaires were not completed correctly because only one component was completed by the respondents and therefore removed from the study. In addition, seven (7) outliers were identified by Mahalanobis Distance, leaving a sample of 395 MSE owners to participate in this study. For the purpose of proper identification, the micro and small enterprises selected for the sample were given unique numbers before the required number 395 was reached. The MSEs were the unit of analysis for the study, while the owner-managers were the unit of inquiry.

Data collection tool and procedures

To elicit input from micro- and small business owners chosen for this study, a self-administered structured questionnaire was used. The questionnaire was first subjected to a pilot study prior to the main study before embarking on the final study. All vague, poorly worded, and ambiguous questions were omitted after pre-testing the questionnaire in order to include a refined questionnaire for the final field study. In order to create a sufficient study sample, the researcher used multi-stage sampling to define clusters and sub-groups, before the researcher obtained the necessary sample size. Using the Uganda Bureau of Statistics (UBOS) updated business registry, the investigator initially grouped MSEs geographically based on their location in the selected administrative units within the Kampala Central Division. On the basis of the homogeneity observed between the groups, the researchers sub-clustered in the second level. This also removes sampling bias, as the companies were mostly sub-grouped into two small and micro enterprises, from which the investigator used a simple random sampling method to gather the samples in proportion. The final respondents were collected by applying systematic sampling. This was achieved by dividing the total number of micro and small business owners of the selected administrative unit by stratum sample size to determine the sampling interval. The first respondent was chosen randomly, after which the following respondents were assigned until the sample size of the stratum was achieved. The above process has been repeated for each of the chosen
administrative units within Kampala. A copy of the questionnaire used to obtain information from the micro and small enterprise owners is available in the Appendix, attached.

The results of the sample selected for the study showed that more than half of the respondents were male, accounting for 55.9% (221), while women accounted for only 44.1% (174). This meant that relative to women, more of the males were owners of micro and small business owners, likely because women spent most of their life at home doing housework. In terms of age, 38 percent of respondents were in the 31 to 35 age range. The least defined age group consisted of respondents aged 15-20 years, who contributed just 0.5% (2) of the sample as a whole. The assumption is that the micro and small business owners comprised mainly of the youth for this study. The small and micro enterprises are mostly owned by young people. This is demonstrated by the increase in the number of owners in the young generation (18-35 years). Nevertheless the number of MSE owners (36 to more than 45 years) has declined, which may be attributed to the fact that the bulk of respondents in this age group are out of their active age and no longer work. 73.4% (290) of the owners were married, 21.5% (85) were single, 3.8% (15) were divorced and only 1.3% (5) were widowed. This may be explained by the fact that married couples are more secure and may thus own, run and maintain their businesses followed by the single individual who can devote more of their time to managing their small businesses, whilst the other groups may be fewer, as many may lose their businesses through divorce or loss of a spouse. Respondents were also asked to show their levels of education. The results revealed that a majority of 44.8 percent (177) of respondents had completed secondary education. 33.4 percent (132) percent who had attained tertiary education, 14.9 percent (59) had received undergraduate education, 5 percent (20) had attained primary education and just 1.8 (7 percent) for those with postgraduate education. Regarding the income level, majority of the respondents earned incomes ranging between (Ugx 400,001-700,000) accounting for 45.8 percent (181), followed by those earning Ugx above 700,000 at 40.5 percent (160),those earning Ugx 200,001 to 400,000 at 12.2 percent (48) and the least earners of below Ugx 200,000 at1.5 percent (6).

Measures of study variables

Saving Behavior

Saving Behavior was the dependent variable for this analysis and researchers adopted and modified measures by Chowa and Despard (2014); Dangol and Maharjan (2018); Ariffin et al. (2017) and Delafrooz and Paim (2011).To assess the statements of the respondents that best represented their saving actions, the 7-likert scale was used. On the basis of 9 items ranging from 7- Strongly in Agreement indicating the respondent's ability to practice acceptable saving behavior to 1- Strongly Disagree indicating a poor saving behavior.

Social Influence

Social influence is the degree to which the individuals or people concerned support or don't approve the performance of a particular action. SI is usually tested in research by asking participants to what extent they were inspired to participate in such behaviors by their closest ones, family members, associates, or peers (Dinc & Budic, 2016). The adoption and adjustment of measurement items for this study by Dangol and Maharjan (2018), Hanachi (2005), Dinc and Budic (2016) and (J. Kim, Eys, Robertson-Wilson, Dunn, & Rellinger, 2019) measured social influence. The researcher used the 7-Likert scale ranging from 7-Strongly Agree, which reflects a high impact of the respondent's social influence, to 1-Strongly Disagree, which means that the respondent has a low impact of social influence. The evaluation of Social Influence was based on 10 evaluation items.

Financial Literacy

The Intervening Variable is financial literacy in this analysis. Arnone (2004) defines financial literacy as the skills that one acquires from education that shape them to behave correctly for better financial well-being. To allow one to control their finances on a daily basis, it needs one to
understand and comprehend the use of financial data. This was measured by the adoption and adjustment of measurements by Sebstad, Cohen, and Stack (2006); Schagen and Lines (1996); Atkinson and Messy (2012) and Ariffin et al. (2017). Using the 7-Likert scale ranging from 7-Strongly Agreement signifying the respondent's possession of high Financial Literacy to 1-Strongly Disagree suggesting low degree of Financial Literacy, eleven (11) elements were modified to assess Financial Literacy. Some of the other questions included: I have personal finance management experience, I have a better understanding of how to deal with my use of credit, and among other things, and I have a very good view of my future financial needs.

Self- Control

Self-regulation is the degree to which a person has the self-perception of having control over events and ongoing circumstances. In order not to act on unwanted behavioral patterns that are morally questionable, this allows one to be able to have a proper match for oneself and one's environment (Vitell et al., 2009). The study used 10 (ten) evaluation items on the 7-Likert scale ranging from 7-Strongly Agree to demonstrate the respondent's high self-control to 1-Strongly Disagree to indicate low self-control. Questions like I'm good at avoiding temptation, I do things that feel good at the moment were included in the questionnaire, but I regret afterwards, I have more self-discipline, I have a hard time breaking bad habits just to name a few. These measurement items were adopted and modified from Lindner, Nagy, and Retelsdorf (2015); Strömbäck et al. (2017) and Ariffin et al. (2017).

Covariates

This study included control variables: age, gender, income level, level of education and marital status. Age was assessed and coded as; (1), 15-20 years (2), 21-25 years (3) 26-30 years (4) 31-35 (5) 36-40 (6) 41-45 and (7) above 45. Gender was being encoded where 1 is male and 2 is female. The marital status was assessed when 1 reported married and 2 reported unmarried 3 if one was divorced, 4 if one was a widow and 5 for one who was a widower. Six groups, ranging from primary level, secondary level, tertiary level, undergraduate, postgraduate and none, assessed the level of education. The same was true for the amount of income varying from below 200, 000; 200,001-400,000; 400,001-700,000 and above 700,000. The choice of age, gender, income and education level as control variables was based on past studies of Delafrooz & Paim, (2011); Satsios and Hadjidakis (2018); Kostakis (2012).

Testing for moderation

Baron and Kenny (1986) propose that a third variable (moderator) should be included. In terms of a given dependent variable, the variable may result in the full effectiveness of the predictor variable. Thus, as a function of the moderator variable, the researcher can measure and test for the differential effect of the independent variable on the dependent variable. Baron and Kenny (1986) therefore identified three assumptions for testing to determine the existence of the effect of interaction/moderation to continue. These include the moderator and independent variables are categorical variables; the moderator variable is a categorical variable and the independent variable a continuous variable; the moderator variable is a continuous variable and the independent variable is categorical. Essentially, it is important to recognize the existence of relationships between the variables through correlation and regression analyses (Aiken, West, & Reno, 1991). Therefore in order to continue the test for moderation, correlation and regression tests were carried out. Relationships and effects on dependent variables should be identified between moderators and independent variables. Additionally, the ModGraph excel software was implemented to demonstrate the extent of the moderation effect based on low, medium and high effects. Jose (2008) suggests that the moderating effect of the moderator variable should be plotted on a ModGraph excel application in order to illustrate the degree of moderation. The ModGraph allows one to visualize the moderating relationship of how the independent variable predicts the dependent variable, depending on the degree of moderation.

Study Results
For all study variables, Table 1 summarizes the mean, standard deviations, reliability and correlation results. The results reveal that saving behavior had the highest mean of 6.165 and a standard deviation of .564, while self-control has the lowest mean of 2.215 and a standard deviation of .626. Correlation results reveal that all variables were highly associated with saving behavior with $r = .492$, $p = .000$, $p < .01$, self-control with $r = .455$, $p = .000$, $p < .01$ and finally financial literacy with $r = .364$, $p = .000$, $p < .01$.

**Table 1. Mean, Standard deviation, Reliability and Correlation**

| Variable (N=305)          | M     | SD(σ) | Reliability((α)) | 1   | 2   | 3   | 4   |
|---------------------------|-------|-------|-------------------|-----|-----|-----|-----|
| Saving behavior (1)       | 6.165 | .564  | .760              |     |     |     |     |
| Social influence (2)      | 4.648 | .807  | .694              | .492** |     |     |     |
| Financial literacy(3)     | 5.564 | .596  | .759              | .364** | .233** |     |     |
| Self- control (4)         | 2.215 | .626  | .701              | .455** | .310** | .241** |     |

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

Reliability and validity of measurement items

The alpha coefficient test of the cronbach is used to assess the internal accuracy of the instruments used when the instrument is connected to validity, providing real results to what it purported to measure (Heale & Twycross, 2015). In the Cronbach alpha test, values ranging from as low as .694 (social impact) to as high as .760 (saving behavior) were found. These findings were consistent with the benchmark suggested by Hair, Black, Babin, and Anderson (2010), in which an average reliability is considered to have a coefficient of 0.60, whereas a coefficient of 0.70 and above suggests a high degree of reliability of the instrument. It can then be concluded that the information obtained from the pilot study was correct and had reached the degree of internal precision necessary. Table 2.0 displays the coefficient alphas for the variables.

**Table 2. Reliability**

|                        | Cronbach's Alpha | Number of Items |
|------------------------|------------------|-----------------|
| Saving Behavior        | .760             | 9               |
| Social Influence       | .694             | 10              |
| Financial Literacy     | .759             | 11              |
| Self-Control           | .701             | 10              |

Source: Research Data, (2020)

In addition, exploratory factor analysis was also performed to test the components of saving behavior, social impact, financial literacy and self-control by principal component analysis using Varimax with Kaiser Normalization, which yielded factors with Eigen values greater than 1. The
results produced showed that with respect to saving behavior, the first factor represented 24.16 percent, while the second factor represented 20.437 percent and the third factor represented 16.558 percent of the overall variance. The first, second and third types of variables were defined as saving consistency, saving aims and saving attitude. In addition to the Bartlett sphericity test being significant, the Kaiser-Meyer-Olkin value (0.753) was thus acceptable over 0.5.

Table 3. Factor analysis for saving behavior

| Variable                                                                 | Saving consistency | Saving aims | Saving attitude |
|--------------------------------------------------------------------------|--------------------|-------------|----------------|
| SB4: I stick and follow the plan I have on how to use my money           | .788               |             |                |
| SB5: When I get money, I always save part of it                          | .742               |             |                |
| SB6: I save to achieve certain goals                                     | .703               |             |                |
| SB9: I save because it is a good thing to do                             |                    | .778        |                |
| SB8: In order to save, I often consider whether there’s necessity before I make a purchase |                    | .694        |                |
| SB7: I always put money aside on a regular basis for the future          |                    | .647        |                |
| SB2: Before I buy something for myself, I compare prices and buy similar cheaper items |                    | .825        |                |
| SB3: I have a plan on how to manage my money                             |                    | .625        |                |
| SB1: I pay close attention on how much money I put aside.                |                    | .497        |                |

Eigen value: 2.174 1.839 1.490
Variance (%): 24.16 20.43 16.558
Variance (%): 24.16 44.59 61.151

KMO=.753, Bartlett's Test of Sphericity=827.812, df=36, sig=.000
Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization, Rotation converged in 5 iterations.

Source: Research Data, (2020)

Social Influence factor analysis was conducted to ensure that before proceeding for further analysis, the items used were accurate and consistent. Social influence factors notably included: when it comes to money management my parents are/were a good example, if I decided to put money aside, my close family would approve of that decision among others. Only one item (SI7) did not load and was thus eliminated from further study. Factors one, two and three were respectively pointed to as peer influence, parent influence and close family influence. The first factor accounted for 23.491 per cent of the total variance, while 20.75 per cent and 16.878 per cent were the second and third factors. The Kaiser-Meyer-Olkin Scale (KMO measure) of
sampling adequacy was used to test sampling appropriateness. KMO was greater than 0.5, as seen in table 4 below and the Bartlett Test was significant. Table 3.1 displays the EFA's results.

**Table 3.1. Factor analysis for social influence**

| Source: Research Data, (2020) |
|-----------------------------|
| KMO=.739, Bartlett's Test of Sphericity=88.824, df=36, sig=.000 |
| Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization, Rotation converged in 4 iterations. |

Factors with loadings above 0.5 were considered to be appropriate in the case of financial literacy and were held for further data analysis. Removing item FL 8 because it was not loaded, ten out of eleven loaded items. Some of the task elements included: knowledge of personal finance management, understandability of credit usage management, and so on. Three variables were loaded and named financial knowledge, financial skills and financial ability respectively. The first factor represented 20.284 % of the overall variance, while the second and third factors represented 19.618 and 18.588 respectively. The Kaiser- Meyer- Olkin sampling adequacy test (KMO test) was used to determine the suitability of the sampling. As seen in table 3.2 below, KMO was greater than 0.5 and Bartlett's Test was significant.
### Table 3.2: factor analysis for financial literacy

| FL1: I have knowledge about managing personal finances | .841 |
| FL2: I have better understanding of how to manage my credit use | .758 |
| FL4: I have adequate skills of managing my finances | .532 |
| FL6: I have a budget I follow when spending money | .753 |
| FL5: I receive financial training before acquiring finances | .715 |
| FL7: I have the ability to prepare my own weekly(monthly) budget | .690 |
| FL11: Am in a position to discuss money and financial issues with ease | .835 |
| FL10: I have the ability to maintain my financial records for my income and expenditure | .594 |
| FL9: I have the ability to manage my funds very well | .575 |

**Eigen value**

| 1.826 | 1.766 | 1.673 |
| **Variance (%)** | 20.284 | 19.618 | 18.588 |
| **Variance (%)** | 20.284 | 39.901 | 58.490 |

KMO=.782, Bartlett’s Test of Sphericity=642.983, df=36, sig=.000

**Extraction Method:** Principal Component Analysis, **Rotation Method:** Varimax with Kaiser Normalization, Rotation converged in 4 iterations.

Source: Research Data, (2020)

Self-control items included: resistance to the desire to spend money; self-discipline in respect to spending money, among others. Item SC 7 was removed as it was not loaded, leaving only 9 items loading. Self-control loaded under three factors where factor one represented 21.573% of the total variance, factor two represented 17.635 of the total variance, and factor three represented 16.471 of the total variance. The factors were named self-regulation, willpower and foresightedness respectively. The Kaiser-Meyer-Olkin sampling adequacy test (KMO measure) above 0.5 was used to measure sampling adequacy, and the Bartlett outcome was significant.

### Table 3.3. Factor analysis for self-control

| SC1: I’m good at resisting temptation to spend money | .743 |
| SC3: I am more self-disciplined when it comes to spending money | .716 |
| SC2: When I have money, I do things that feel good in the moment but regret later on | .654 |
Testing for mediation

In testing Hypothesis 1, the study anticipated that financial literacy would mediate the relationship between social influence and saving behavior among owners of micro and small enterprises in Kampala, Uganda. To investigate the mediation effect, four steps were followed by MacKinnon (2012) and these included:

i) a major relationship between social influence and financial literacy
ii) a significant association between financial literacy and savings behavior
iii) a significant association between social influence and savings behavior while controlling for financial literacy
iv) a significant coefficient for the indirect path between social influence and saving behavior via financial literacy. The bias-corrected percentile bootstrap method determines whether the last condition is satisfied.

Using (Hayes, 2018) Hayes (2018) PROCESS macro v3.2 (Model 4), the results below display the effects of the multiple regression analysis. The results indicate that social influence is significantly associated with financial literacy in the first step, $\beta_4 = .233, p < .05$ (Table 4.0) with 5.4 percent of the variance explained by the model (R2.054). Financial literacy was found to be significantly linked with saving behavior in the second step, $\beta_2 = .364, p < .05$ (Table 4.1). This model accounted for 31.2 percent of the variance (R2 .132). Table 4.2 was used to assess the third-step results when controlling for financial literacy. Results show that social influence was significantly correlated with saving behavior $\beta_1 = .492, p < .05$. Finally, table 4.3 indicates the bias-corrected percentile bootstrap method results showing the indirect effect of social influence on owners' saving behavior through financial literacy was significant, a1
\( b_1 \) coeff. = .053, SE = .016, 95 percent CI = [.027, .093]. A partial mediation is suggested by these findings therefore supporting hypothesis one.

**Table 4. Social influence and financial literacy**

| Model   | R  | R-Sq | MSE  | F    | df1 | df2   | p    |
|---------|----|------|------|------|-----|-------|------|
|         | .233 | .054 | .073 | 22.427 | 1.000 | 392.000 | .000 |

| Coeff. | t   | p    | LLCI | ULCI |
|--------|-----|------|------|------|
| Constant | 22.280 | .0000 | .600 | .716 |
| Social influence | .233 | 4.376 | .0000 | .135 | .328 |

*Outcome variable: Financial Literacy*

**Table 4.1. Financial literacy and saving behavior**

| Model   | R  | R-Sq | MSE  | F    | df1 | df2   | p    |
|---------|----|------|------|------|-----|-------|------|
|         | .364 | .132 | .050 | 59.719 | 1.000 | 392.000 | .000 |

| Coeff. | t   | p    | LLCI | ULCI |
|--------|-----|------|------|------|
| Constant | 14.985 | .0000 | .439 | .571 |
| Financial literacy | .364 | 7.728 | .0000 | .234 | .394 |

*Outcome: saving behavior*

**Table 4.2. Social influence and saving behavior**

| Model   | R  | R-Sq | MSE  | F    | df1 | df2   | p    |
|---------|----|------|------|------|-----|-------|------|
|         | .492 | .242 | .044 | 125.782 | 1.000 | 393.000 | .000 |

| Coeff. | t   | p    | LLCI | ULCI |
|--------|-----|------|------|------|
| Constant | 23.004 | .0000 | .480 | .570 |
| Social influence | .492 | 11.215 | .0000 | .348 | .496 |

*Outcome: saving behavior*

**Path estimate and influence effects between the variables**

| Effect of social influence and saving behavior | Significance level |
|----------------------------------------------|--------------------|
| Direct effect                                | 0.366, .000        |
| Indirect effect                              | 0.053              |
| Total effect                                 | 0.419, .000        |
As the Lower Limit Class Boundary (LLC1) and Upper Limit Class Boundary (ULC1) are non-zero, the mediation effect is further emphasized to exist, so the effect of social influence on saving behavior is mediated by financial literacy as shown in Table 4.3 below.

**Table 4.3. Indirect effect of social influence and saving behavior**

|                  | Effect | Boot SE | LLCI | ULCI |
|------------------|--------|---------|------|------|
| Financial Literacy | .053   | .016    | .027 | .093 |

**Testing for moderation**

Results in Table 5 show the conditional process analysis of the study by the use of Hayes (2018) process macro v3.2 (Model 15), in the first multiple regression we tested whether the self-control moderates the path from financial literacy to saving behavior. The model produced $R^2$ of .305 indicating that it accounted for 30.5 percent of the variance.

The findings indicate that social influence has a direct significant effect on financial literacy with coeff. $= .233$, CI $= .135, .328$(see table 4). Results further indicate that self-control has a significant direct effect on savings behavior with coeff. $= .455$, CI $= .185, .274$ (table 5.1). It has therefore been confirmed that self-control has a moderating effect on the relationship between financial literacy and saving behavior (coeff. $= .331$, $p = .000<.05$) as shown in table 5. Therefore, hypothesis 2 is supported. In the second regression, analysis, we tested whether self-control moderates the path from social influence to saving behavior. The interaction of self-control on the relationship between social influence and saving behavior appeared to be statistically significant (coeff. $= .197$, $p = .009<0.05$) as shown in depicted in table 5.2 below. These results suggest that there is a moderating effect of self-control in the relationship between social influence and savings behavior thereby supporting hypothesis three.

In the joint regression, the variability in financial literacy is explained by 5.4 per cent of social influence. There is an introduction of a mediation effect issue on the mediator when the interaction term is introduced, allowing financial literacy to not be significant ($p=.164$, LLC1$= -.255$; ULC1$= .043$). Given that p-values are lower than .05, (.023 and .015 respectively), social influence and self-control are positive and significant. The interaction term of financial literacy * self-control is significant at the p-value of 0.000, so self-control moderates the relationship between financial literacy and self-control. Financial literacy alone becomes negligible, but it becomes significant when combined with self-control. This suggests that financial literacy does not stand on its own to influence saving behavior, so it has to be paired with self-control to have a positive effect on saving behavior. The interaction term of social influence * self-control, on the other hand, is not significant at a p-value
of .081, which is greater than .05 (see table 5.3). As can be seen in Table 5.4, the conditional indirect effect on self-control values (V) of social influence (X) on saving behavior(Y) is only significant at medium and high levels of self-control. Moreover, as zero is not part of the confidence intervals of the boot strap, as seen in Table 5.5 below, there is a significant index of moderated mediation thus supporting hypothesis four.

Table 5.0: financial literacy, self-control and saving behavior

|                 | Coeff. | se  | t    | p     |
|-----------------|--------|-----|------|-------|
| Constant        | 0.607  | 0.063| 9.677| 0.000 |
| Self-Control    | -0.062 | 0.067| -0.934| 0.351 |
| Financial Literacy | -0.063 | 0.081| -0.779| 0.437 |
| Interaction (Financial Literacy*Self-control) | 0.331 | 0.081| 4.101| 0.000 |

R 0.552
R Square 0.305
Mean Square Error 0.040
F Statistic 56.851
df1 3.000
df2 389.000
Sig. 0.000

Table 5.1. Self-control and saving behavior

| R       | R-Sq   | MSE  | F     | df1  | df2  | p   |
|---------|--------|------|-------|------|------|-----|
| .455    | .207   | .046 | 102.516 | 1.000| 392.000| .000|

Model

| Model             | Coeff. | t    | p     | LLCI  | ULCI  |
|-------------------|--------|------|-------|-------|-------|
| Constant          | 22.857 | .0000| .492  | .585  |
| Self-control      | .455   | 10.125| .0000 | .185  | .274  |
Table 5.2. Social influence, self-control and saving behavior

|                         | Coeff. | se  | t      | p      |
|-------------------------|--------|-----|--------|--------|
| Constant                | 0.494  | 0.039 | 12.655 | 0.000  |
| Self-Control            | 0.08   | 0.04 | 1.985  | 0.048  |
| Social influence        | 0.144  | 0.081 | 1.776  | 0.077  |
| Interaction (social influence*Self-control) | 0.197  | 0.075 | 2.615  | 0.009  |
| R                       | 0.596  |      |        |        |
| R Square                | 0.355  |      |        |        |
| Mean Square Error       | 0.038  |      |        |        |
| F Statistic             | 71.689 |      |        |        |
| df1                     | 3.000  |      |        |        |
| df2                     | 390.000|      |        |        |
| Sig.                    | 0.000  |      |        |        |

Table 5.3. Joint effect of social influence, financial literacy, self-control and saving behavior

Model summary

|          | R     | R-Sq | MSE | F      | df1 | df2 |
|----------|-------|------|-----|--------|-----|-----|
|          | .64   | .418 | .340| 55.54  | 5   | 387 |

Model

|                         | Coeff. | se  | t      | p      | LLC  | ULC  |
|-------------------------|--------|-----|--------|--------|------|------|
| Constant                | .574   | .061| 9.363  | .000   | .453 | .694 |
| Social influence        | .179   | .079| 2.279  | .023   | .025 | .334 |
| Financial Literacy      | -.106  | .076| 1.396  | .164   | -.255| .043 |
| Self-Control            | -      | .065| 2.446  | .015   | -.288| -.031|
| Interaction (Social influence*Self-control) | .128  | .073| 1.750  | .081   | -.016| .271 |
| Interaction (Financial Literacy*Self-control) | .321  | .076| 4.248  | .000   | .172 | .470 |


Table 5.4: Indirect effect of social influence on saving behavior at values of self-control

| Self-Control | Effect | se  | LLCI  | ULCI  |
|--------------|--------|-----|-------|-------|
| .433         | .008   | .013| -.018 | .035  |
| .901         | .042   | .014| .018  | .072  |
| 1.389        | .079   | .024| .036  | .129  |

Table 5.5. Index of moderated mediation

| Index       | BootSE | BootLLCI | BootULCI |
|-------------|--------|----------|----------|
| Self-Control| .074   | .028     | .134     |

The moderated findings are presented on a moderation graph, as suggested by Aiken et al. (1991), to help explain the nature of the interaction of self-control together with social influence and financial literacy, and further argue that it is inadequate to conclude that interaction takes place without demonstrating the existence of interaction at various moderator levels. Using the graphical approach, the moderating effect of self-control on the relationship between financial literacy and saving activity has been determined. The study showed that the effects of financial literacy on saving behavior are significant at medium at higher levels of self-control than at lower levels of self-control. The slopes in the figure therefore suggest that as opposed to low self-control as seen in Figure 2 below, financial literacy was associated with stronger and significant saving behavior at medium and high levels of self-control.

Using the moderation graph, the moderation effects of self-control on the relationship between social influence and saving behavior have been identified. The study showed that at all levels of self-control, at low, medium and higher levels, the effect of self-control is significant. As shown in Figure 3 below the slopes in the figure indicate that social influence can stand alone without being combined with self-control to influence saving behavior. This suggests that social influence is so strong that one's saving behavior cannot actually be influenced by its relationship with self-control. In the case of Uganda, most people collectively do things, thus being highly influenced by families and peers who eventually lose their self-control in terms of influencing saving behavior.
Figure 2. Moderation of self-control on the relationship between financial literacy and saving behavior
Source: Research Data, (2020)

Figure 3. Moderation effect of self-control on the relationship between social influence and saving behavior
Source: Research Data, (2020)
Discussion

The findings of this study demonstrate that financial literacy has a mediating effect on the relationship between social influence and savings behavior among micro and small business owners in Kampala, Uganda. In addition, Okello et al. (2016) argued that financial literacy involving the growth of individuals' knowledge and skills is enhanced by existing social networks in society that serve as information flow and sharing conduits. This was further supported by Balatti, Black, and Falk (2006) arguing that knowledge, abilities, values, ideas and perceptions about money, identities established with respect to money, and trust in behaving with money in specific ways are all highly affected by networks to which people belong and have access. As a result, financial literacy, such as investing, has a positive impact on financial decisions. In their research on the impact of financial literacy on different dimensions of financial knowledge, Carpena, Cole, Shapiro, and Zia (2011) demonstrated this in a study in which financial literacy was found to significantly improve the basic understanding of financial choices and attitudes towards financial decisions by individuals. This was also emphasized by Calderone, Mulaj, Sadhu, and Sarr (2013) revealing that financial education in India has a positive and important impact on savings. It is from the literature above that financial literacy was used as a mediator variable between social impact and saving behavior.

Results from the study further show that self-control moderates the link between financial literacy and savings behavior among micro and small business owners. The influence of financial literacy on saving conduct, as shown in Figure 2, is positive and significant at medium and high levels of self-control only. In addition, the research described the moderating role of self-control in the relationship between social influence and saving behavior among micro and small business owners in Kampala, Uganda. This is shown by Figure 3, which shows that at all levels of self-control, the effect of social influence on saving behavior is significant. On the basis of the results of the analysis on the moderating effect of self-control on the relationship between social influence and savings behavior present new perspectives in the field of behavioral finance.

Finally, our results indicate that the conditional indirect effect on self-control values (V) of social impact (X) on saving behavior(Y) is only significant at medium and high self-control levels. In addition, if so high, social impact alone has a significant positive impact on saving behavior, but when combined with self-control, there is no positive impact on saving behavior. This can be attributed to the African culture where people live together, largely regulating their choices by family and friends, thus weakening people's standards of self-control in terms of controlling their saving actions.
Conclusion

In understanding the role of social power, financial literacy and saving behavior among micro and small enterprise owners in Kampala, Uganda, the present study provides an important research model. In addition, as it improves the relationship of the study variables, the moderating function of self-control brings some fresh insights into literature. Overall, self-control is more essential for one with financial literacy compared to one with social influence. It is therefore assumed that it is not simply financial literacy alone that ultimately mediates social impact and saving actions, but the relationship of financial literacy and self-control. These results will help policy makers such as government not only to improve community financial literacy, but also to inculcate self-control mechanisms within individuals to encourage their saving actions.

Theoretical and managerial implications

This research, potentially, supports the theory and adds to the current literature. First the study confirms what other scholars have already proven that social power, financial literacy and self-control have a major direct impact on savings behavior. In addition, the research adds some new understanding that the relationship between social impact and savings behavior is mediated by financial literacy. Secondly, the study shows that self-control is a powerful moderating variable between social impact, financial literacy and savings behavior. The research contributes to the current literature as it further reinforces what other studies have previously shown that social power and self-control have a direct effect on people's saving actions. The research also offers some fresh insights that the link between social impact and saving behavior can be reinforced by self-control. Third, the study refers to the social cognitive theory, where a person is supposed to have a self-regulated ability to drive himself or herself to attain such outcomes by deciding his or her own behavior and acting appropriately, hence the use of self-control as a moderator.

Limitations and recommendations for further studies

In Kampala, Uganda, this research was conducted with a target population of 46,270. This study should be replicated in other regions of the world or countries with a large target population, given the limited geographical reach and target population, as different findings may be presented. Secondly, the study used a closed-ended questionnaire when obtaining quantitative data. Using mixed approaches, more research should be carried out as these may reveal other issues affecting the saving behavior of micro and small business owners. However the analysis could be solely qualitative and thus, reliable information could be collected on saving actions. In reality, this
research looks at an individual's saving behavior at one point in time (cross-sectional); we suggest a longitudinal study to provide more detailed information on the variables of the study.

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