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Article *in* Current Psychology · September 2021

DOI: 10.1007/s12144-021-02176-7

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Current Psychology
https://doi.org/10.1007/s12144-021-02176-7

Does self-control moderate financial literacy and savings behavior relationship? A case of micro and small enterprise owners

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Accepted: 1 August 2021

Abstract
It is vital to understand Saving Behavior at an individual level, since an individual member of society initiates capital accumulation / mobilization. Micro and Small Enterprises (MSEs) have been provided credit facilities solely as a source of financing for a long time, but there has been increasing concern lately that MSEs require not only credit but also savings that have risen to the top of the financial services for this market. Micro and small business owners, however, often struggle to save, even if they have surpluses. This is attributed to the lack of incorporation of cognitive factors, financial indiscipline and lack of vision. This study examines the moderating effect of self-control on the relationship between financial literacy and saving behavior using cross-sectional data from 395 micro and small business owners in Kampala, Uganda.The study used a quantitative, positivist research approach. Process macro was used as a statistical tool for analyzing the data gathered using a questionnaire. The study was guided by the social cognitive theory. Results indicate that both financial literacy and self-control significantly predict saving behavior. Besides, the relationship between financial literacy and saving behavior is moderated by self-control. Furthermore, the findings suggest that individuals with low self-control require a lot of financial literacy in order to have a positive effect on their savings behavior relative to those with high self-control because even though they go through financial literacy training, its effect on savings behavior would be negligible. This means that first evaluation of their self-control levels is required before individuals are taken for financial literacy training. Therefore it is advised to determine the self-control of an individual before they are taken for training in financial literacy.

Keywords Saving behavior · Financial literacy · Self-control · Kampala · Uganda

Introduction and Motivation

Saving behavior is, according to Denton, Fretz, and Spencer (2011), a mixture of expectations of potential needs, saving choices and behaviors that result in wealth formation. Saving money is a crucial requirement for individuals to help them figure out how to solve difficult possible financial decisions themselves by learning and rehearsing successful financial skills in their lives. Micro and small businesses have a major effect on most countries' economic activity, according to Esiebugie (2018), so poor saving practices on the part of the owners endangers the company's future. Small companies whose owners do not save and reinvest retained earnings are less likely to expand than those whose owners reinvest capital and have a higher growth potential (Woldehanna, Amha, & Yonis, 2018). MSEs make up a substantial portion of Uganda's business community and are a primary driver of economic development, growth, and job creation. Over 1.5 million micro and small businesses account for approximately 90% of all businesses in Uganda, with more than 80% of them located in urban areas like Kampala. MSEs account for about 75% of Uganda's GDP and employ about 2.5 million people, demonstrating their undeniable significance in the country's economic growth, particularly given Uganda's high unemployment rate of 61.6%. Ugandan MSEs must develop and compete in the global economy. MSEs cannot acquire or implement new technologies without resources, nor can they extend to global markets or form business relationships with larger firms. Capital seems to be both a stumbling block and a

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Published online: 18 September 2021

long term solution. Because of the aforementioned reasons, savings are an important financial tool, especially for micro-businesses with limited access to credit, as they can be used to boost growth (Abebe, Tekle, & ManoY, 2016).

Research on saving behavior at the micro-level in sub-Saharan African countries has been minimal (Asare, Segarra, Gertrude, & Asiseh, 2018). The little published on micro-studies has focused largely on household savings (Nwodo, Ozor, & Okekpa, 2017). Most research has concentrated on macro-level saving behavior, an example being a study by Kaberuka and Namubiru (2014) on the impact of gross domestic savings remittances in Uganda. Literature has centered mainly on understanding a variety of savings limitations, such as lack of financial literacy that restricts access to financial capital, and behavioural frictions, such as time-consistent behaviors (Avdeenko, Bohne, & Frölich, 2019). For anyone, Financial Literacy (FL) is really important as it plays a critical role in having a positive life (Shim, Barber, Card, Xiao, & Serido, 2010). MSE owners make informed financial decisions about savings based on the information and skills gained through financial literacy training, which goes a long way toward enhancing their business growth and development. The financial information gained assists MSE owners in improving their financial skills and gaining the confidence to make financial choices that impact their livelihoods (Atandi, Bwisa, & Sakwa, 2017).Saving activity allows one to possess the essential competencies that include the ability to execute calculations when formulating a saving strategy (A Lusardi & Mitchell, 2014). Financial literacy has been described as the ability to use financial knowledge and skills to efficiently use resources that affect a person's finances in recent years by a large body of literature. Financial literacy lets people make good financial decisions on risk management and financial stability problems (Lajuni, Abdullah, Bujang, & Yacob, 2018). FL is incredibly important for everyone because it is key to leading a good life (S Shim et al., 2010).

Owing to knowledge gaps, poor saving and investment behavior, the majority of micro- and small enterprises are unable to thrive which has led to the closing of the majority of these small enterprises, and yet make a significant contribution to a country's GDP (Abebe et al., 2016). Sseguya, Mazur, and Flora (2018); Fang, Ng, Wang, and Hsu (2017) suggested that financial literacy is not enough to justify appropriate financial behaviors such as saving. Following attempts by countries to boost financial literacy, saving activity remains a nightmare for individuals (Morgan & Trinh, 2019). It is evidenced by the high rate of individually owned failure and stagnation of MSEs (Sharu & Guyo, 2015). Financial literacy, as well as social, economic, and psychological influences, play a role in effective money management (Bamforth, Jebarajakirthy, & Geursen, 2017). The same was asserted by Bamforth et al. (2017) for psychological variables such as personality to affect the attitude toward spending money, the extent of impulsive spending, the level of stress, and the use of credit cards. This article therefore has three specific objectives;

i. To establish whether financial literacy has a direct impact on saving behavior.
ii. To determine if self-control has a direct impact on saving behavior.
iii. To investigate whether self-control has a moderating impact on the relationship between financial literacy and saving behavior.

Section 2 considers the theories on which the study is anchored along with the moderating role of self-control. Section 3 describes the current study, 4 research methodology, 5 looks at the statistical analysis, Section 6 reports on findings, while section 7 entails discussions and section 8 on conclusion.

Theoretical and Literature Review

Social Cognitive Theory

Bandura's Social Cognitive Theory is one of the most influential and generally recognized theories of social science, and it has influenced a broad range of areas, including behavioral finance (Bandura, 2005). In understanding the process of social cognitive learning (Bandura, 1989), this theory emphasizes the ongoing reciprocal relationship between individual behavioral factors (cognitive) and environmental influence. In this theory, learning is thus more focused on observer learning (Bandura, 2009). Observational learning (modeling) consists of four interrelated components: processes of attention, procedures for retention, procedures for reproduction and motivation.

Bandura's (1997) social cognitive theory proposes that learning is a process that occurs within a collective text. The principle argues that learning is a vicarious process in which individuals directly learn alongside each other. Individuals can learn by observing others, for example, and not simply by providing guided directions. Okello, Ntayi, Munene, and Nkote (2016) believed the same thing that people primarily learn from observing others. Although implicit and explicit learning can affect financial behavior, implicit learning is more prevalent (S Shim, Xiao, Barber, & Lyons, 2009).

The original social cognitive theory states that the modelling process stems from human actions (Bandura, 2014). The theory also suggests that the current social context in which one lives influences the attitudes and acts of the individual, as it models the individual in a specific way to suit with the social environment. This emphasizes that people learn within the social system by watching other individuals (models) that they feel are trustworthy and competent. In this case, despite the desire to be attached to others, a person attached to a specific group is compelled to imitate and mimic the actions of others within that group (Bandura, 1997). The social environment of a person consists of families, peers, community, and mass media that impose the societal strain, and social expectations that a person may derive from (Wills, Ainette, & Walker, 2015).

The theory suggests individuals are motivated by external stimuli rather than by inner influences. This model indicates that the triad of interpersonal interactions, psychological and environmental forces, may describe human nature. Alternatively, this is known as reciprocal determinism. Environmental influences represent conditions and an environment where behavior is preformed, while human variables include instincts, desires, characteristics, and other particular motivating forces. Self-efficacy, outcome goals, self-control, motivation, emotional processing, and reflective learning are some of the variables that could be involved in the process of behavioral improvement (Lown, Kim, Gutter, & Hunt, 2015).

Bandura (2009) also introduces the inborn ability of people often influencing human behavior. Compared to himself, the blame for modifying human actions rests with cognitive results, i.e. awareness and abilities. This theory is more applicable in financial behavior, particularly for micro and small business owners, as most participants learn their financial conduct from their family, friends, community, society and institutions. The theory suggests that social learning is based on interpersonal, peer-reciprocal, socio-economic and environmental backgrounds (Chaulagain, 2019).

The theory of social cognitive is focused on four key principles that include: ability to symbolize: this is one's ability to recognize and use symbols to help store, interpret and turn perceived events into cognitive models to guide them in subsequent behavior and choices. Self-regulation Capacity which includes the ability of a person to motivate himself or herself to achieve certain objectives by deciding his or her own acts and reacting accordingly. Therefore behavior is achieved by self-regulation and self-direction. The self-reflective ability that includes a cycle of testing of perception, in which individuals may conduct a self-check to ensure that their reasoning is right. The principle also advocates for vicarious capacity where people can adjust expertise and experience to shape information that is transmitted through a multitude of mediums. By studying the acts and effects of others as vicariates, people are able to obtain insights into their own activities (Bandura, 2014).

This research's Social Cognitive Theory focuses on all the study variables of financial literacy, self-control, and saving behavior. According to social cognitive theory, one's behavior is affected by encounters with others, the setting, one's own behavior, and one's cognitive capacity (Bandura, 1997). The social environment involves friends, family, neighbors and the media (Chaulagain, 2019).

With regard to financial literacy, observation has proven to be an important means of learning in social environments such as the family. Parents are the first modelers, because they should be exceptional, who in effect encourage their children's saving actions. Parents are seen as the first examples of the saving habits of their children as they experience and grow familiar with the correct actions from infancy to maturity (Jamal, Ramlan, Karim, & Osman, 2015). The theory also notes that financial conduct can also be influenced by literacy alone (Chaulagain, 2017). Chaulagain (2017) also discusses the inborn abilities of humans influencing human behavior. According to them, cognitive effects are responsible for changing human behavior, i.e. awareness and abilities. However, the theory stipulates that one must self-regulate to achieve the desired outcome. This can only be accomplished through the capacity of a person to enable him or herself to achieve certain goals by focusing on his or her own acts and acting accordingly. It is further argued in favor of cognitive reasoning to help manage the financial behavior of individuals. The hypothesis suggests that, given their cognitive understanding of their experiences, it is the experience one has on financial matters that forces one to behave accordingly. It is this practice, positive or bad, that shapes one in the handling of their finances to know what to do and what not to do (Ameliawati & Setiyani, 2018). The single most critical factor in promoting behavioral improvement is this theory (Bandura, 1990). And that should be used to help people change their financial conduct, one of which is saving.

Behavioral Life Cycle Hypothesis

Shefrin and Thaler (1988) BLC hypothesis assumes that people see money as fully fungible and that a foresighted person rationally plans his or her lifetime consumption (Modigliani & Brumberg, 1954). The model is based on four ideas that include: First, it points out that people have difficulty managing the desire to spend even though it is in their best interests to save money. Second, it implies people create their opportunities or constraints to help them save money. Third, the person classifies economic resources into different "mental accounts," and it is assumed that the desire to expend resources will vary accordingly. Thaler and Benartzi (2004) suggests that, due to lack of self-control, individuals are unable to save, thus the need for foresight vital to long-term planning (Kim & Hanna, 2017).The Behavioral Life-Cycle Theory (BLCT), published in 1988, emphasizes self-control, mental accounting, and framing as ways to improve saving (Griesdorn, Lown, DeVaney, Cho, & Evans, 2014). Self-control in this research is a way of regulating impulsivity and time discrepancies, where people may regulate their immediate consumptive behavior. Three elements of internal conflict, temptation and willpower need to be considered in order to attain self-control.

Effect of Financial Literacy on Savings Behavior

Financial literacy benefits micro and small business owners by allowing them to properly budget and save, manage their assets and obligations, and put their resources to good use, all of which help them better organize their finances. Financial literacy benefits individuals, businesses, and families by encouraging them to save and invest wisely (Stolper & Walter, 2017). Jamal et al. (2015) used structural equation modeling to examine the relationship between financial literacy and savings in a sample of 1124 high school and undergraduate students from Malaysia's Sabah state. They discovered that financial literacy was a major determinant of savings. Furthermore, Murendo and Mutsonziwa (2017) used probit regression analysis to investigate the impact of financial literacy on personal saving decisions in a sample of 400 Zimbabweans, finding a positive relationship between financial literacy and personal savings. Other studies have found that financial literacy had a positive impact on financial outcomes such as and saving and investment practices (Letkiewicz & Fox, 2014). Sang et al. (2014) discovered that while financial literacy does not explicitly influence one's financial decisions, having financial awareness does influence one's attitudes toward positive financial conduct. Savings activity was found to have a positive and important relationship with financial literacy. After family impact, financial literacy is the second most important element to affect saving behavior (A Lusardi & Mitchell, 2014).

Individuals with a greater understanding of finance are more likely to use financial products and services, control cash flow, save, and invest. Children should be introduced to the idea of saving and learn how to handle money in and outflows at a young age via financial education—financial literacy trainings. Mahdzan and Tabiani (2013) analyzed the effect of financial literacy on the personal savings in a sample of 192 persons from master of business administration program students of Malaya University and Klang valley residents with probit regression and discovered that financial literacy was a significant positive determinant of personal savings In another study, Beckmann (2013) researched the impact of financial literacy on household saving with regression analysis and discovered that financial literacy influenced the savings positively. Financial literacy also allows the individuals to invest their money shrewder thus promoting savings. Individuals and families with higher financial literacy are often more likely to achieve their financial goals, such as purchasing a home, paying for their children's schooling, and having a better retirement experience.

Financial literacy research has connected financial expertise to a variety of financial behavior measures. Less financially literate people, for example, are less likely to prepare for retirement and less likely to invest in the stock market. According to A Lusardi and Mitchelli (2007), people with more financial experience are also more likely to make retirement plans. This means that financial literacy and responsible financial conduct, such as saving, have a positive relationship.

Khatun (2018) conducted research on the impact of financial literacy and parental socialization on Bangladeshi students' saving habits. The goal of this study was to see how parental socialization and financial literacy influenced university students' savings behavior in Bangladesh, specifically the relationship between savings behavior and parental socialization and savings behavior and financial literacy. Both financial literacy and parental socialization have been shown to have a positive effect on savings activity, but parental socialization has a greater impact than financial literacy. A study by Alwi, Amir Hashim, and Ali (2015); Wong (2013) established a positive relationship between savings behavior and financial literacy thus deducing that at higher level of financial literacy enables the students to understand the importance of savings.

Kumar, Watung, Eunike, and Liunata (2017) investigated the impact of financial literacy on financial behavior and how financial behavior influences financial decision-making among college students, finding that financial literacy influences financial behavior and financial behavior influences financial decision-making. Not only that, but it was also discovered that parents are the first people who offer good financial literacy to their children, which subsequently has a significant impact on their financial behavior. Wong (2013) investigated saving habits among secondary, college, and university students and discovered that financial literacy and parental socialization are two significant factors that affect savings. The study also discovered that a student's potential retirement plans had an effect on their saving habits. Salikin, Ab Wahab, Zakaria, Masruki, and Nordin (2012) investigated the impact of parents' financial situation and educational background on students' savings behavior at a Malaysian local university and discovered that parents' financial situation and educational background have major relationships with student savings behavior. Students who discuss money management with their parents have a better understanding of how to behave in a more financially responsible manner.

Why Does Financial Literacy Have a Positive Effect on Saving Behavior?

The level of financial literacy of an individual has a major impact on saving attitudes, which promote trust in planning and a willingness to save and invest money. Financial literacy often improves one's understanding of how to manage one's personal finances effectively, reducing the likelihood of making bad financial decisions. Formal education, social networks of parents, friends, and the media all help one gain financial literacy. This knowledge helps people make well-informed decisions and supports their personal well-being; without it, people are burdened by a lack of understanding of financial issues. As a result, financial knowledge, skill and ability are important factors in improving financial conduct and promoting personal financial well-being for people with/with no prior financial experience. According to the findings of this study, those who have a better understanding of personal finance are more likely to save effectively. On this basis, we hypothesize that financial literacy can predict micro and small business owners' savings behavior (H_{01}).

Effect of Self-Control on Savings Behavior

Self-control is the ability to control one's urges, thoughts, desires, and behavior in order to preserve a valued target (having a financially stable retirement) or avoid a temptation (spending money on non-essential items).Personal financial management requires a prioritized lifestyle and self-awareness discipline to obey the rules and the ability to adjust to changes that have explicitly touched self-control. There is a need for impulse management to help people behave remotely and show self-regulation (Lindner, Nagy, & Retelsdorf, 2015). Several experiments have demonstrated that an individual's self-control level can predict individuals' cognitive and self-regulatory capacities as well as important outcomes such as health and wellbeing later in life (Moffitt et al., 2011).

Individuals who have more self-control have improved financial conduct and are better able to handle their finances. They put their money to the best possible use. People with greater self-control are more likely to accomplish their goals and to be more competitive in all domains of life (De Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012). Kim and Hanna (2017) into the effect of self-control mechanisms on saving actions. The study found that enacting one or more laws to encourage saving has a positive impact on the probability of saving. Noor Zaihan (2016) investigated the savings behavior influence of, self-control. The study observed that self-control affects savings behavior significantly and positively. Rha, Montalto, and Hanna (2006) investigated the impact of psychological influences on saving behavior, focusing on the role of self-control in particular. The researchers used data from the Consumer Finance Survey of 1998 (CFS) and found that people with a saving motivation were more likely to save. The authors also discovered that people who had guidelines for saving were more likely to save than those who didn't. Biljanovska and Palligkinis (2018), discovered that households with poor self-control as a result of a lack of planning, supervision, or dedication accumulate less income, while Choi, Laibson, and Madrian (2011) discovered that people with poor self-control are less likely to save enough resources for retirement. Sirine and Utami (2016) concluded that self-control has a positive, significant effect on the savings behavior of the individuals. According Biljanovska and Palligkinis (2018),individuals with issues with self-control accumulate less resources due to a lack of planning, supervision, or dedication. Choi et al. (2011) discovered that people with low self-control are less likely to plan for retirement. Furthermore, studies suggest that a lack of self-control has a negative effect on an individual's well-being. For example, Pompili et al. (2014) found that depressed individuals with decreased self-control as a result of a positive history of childhood maltreatment are more likely to commit suicide. Abuse and neglect as a child, in particular, may raise the risk of depression and suicidality, all of which are linked to problems with self-control. Besides that, the role of altered sensory perception in abnormal emotional processes like decreased self-control and depression could be briefly discussed. Importantly, depressed people's specific sensory processing patterns have been identified as important factors in determining lower self-control and, as a result, suicidality (Serafini et al., 2016). As a result, we suggest that self-control predicts micro and small business owners' saving behavior (H_{02}).

Moderating Role of Self-Control

Self-control is the method of controlling one's actions in circumstances where there is a straightforward trade-off between long-term objectives and immediate gratification (Bernheim, Ray, & Yeltekin, 2015). Self-control, according to Abdel-Khalek (2016) is the degree to which a person's self-confidence is in control of events and ongoing situations, and represents their sense of their ability to handle them. Self-control, according to Vitell et al. (2009), is intentional self-regulation providing a person with the capacity to act responsibly by overriding one's propensity to behave poorly. Usually self-control is expressed as one's ability to break bad habits, resist temptations and resist first desires (Fujita & Han, 2009).

Topa, Hernández, and Zappalà (2018) found that financial education services only explain 0.1% of the difference in financial behavior, implying that financial literacy is less likely to affect financial behavior when psychological and social influences are taken out of the equation. This research aimed to fill this gap by taking an individual psychosocial approach and determining the impact of financial literacy on financial conduct (saving), conditioned by a non-cognitive element of self-control. Abdel-Khalek (2016) further agreed that a sense of control is important for psychological change, and that it has been discovered to be the best predictor of a person's ability to perform behaviors aimed at achieving the desired goal through action.

Self-control has been studied extensively as a moderator in the moderating function. For instance, a study by Mobarake, Juhari, Yaacob, and Esmaeili (2017) conducted research in Tehran, Iran on the role of self-control in the relationship between peer affiliation and antisocial behavior in adolescents, and found that self-control significantly moderated the relationship between peer affiliation and antisocial behavior. Other studies that used self-control as a moderator include: A research by Yi, Gentzler, Ramsey, and Root (2016) on the moderating role of self-control in connecting maternal socialization of positive emotions with children's behavioral issues was another study that used self-control as a moderator. Cognitive capacity, socialization, self-control, and other non-standard variables are thought to play a role in saving behavior (Mori, 2019). As a result, self-control can be used as a moderator, as it has been demonstrated that, in addition to financial literacy, self-control moderation improves MSE owners' savings actions, leading to hypothesizing the role of self-control as a moderator in the relationship between financial literacy and savings behavior (H_{03}).

The Current Study

The study's principal purposes were threefold. First, we sought to examine whether financial literacy predicts saving behavior. Secondly, it also examined whether self-control can predict saving behavior and, lastly, tested the moderating role of self-control in the relationship between financial literacy and saving behavior. The study's analytical model is illustrated in Fig. 1. This study suggested the following hypotheses, based on the literature review:

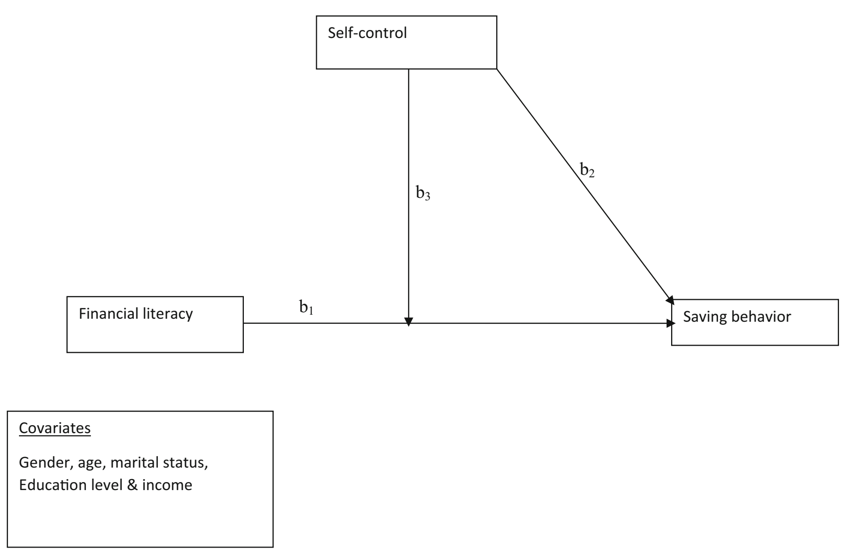
H1: Financial Literacy predicts Saving Behavior of micro and small enterprise owners.
H2: Self-control predicts Saving Behavior of micro and small enterprise owners.
H3: Self-control moderates the relationship between Financial Literacy and Saving Behavior of micro and small enterprise owners.

•Methodology Design and Participants

In collecting primary data, the study followed an explanatory research design along with a cluster and systematic random sampling techniques. Cluster analysis was used to represent the possible structure of data in order to classify clusters of people that share similar characteristics in the various study variables. The aim is to create clusters of members that are as close to each other as possible (Fünfgeld & Wang, 2009).

The researcher then geographically aggregated MSEs based on lower administrative units to create the sampling frame/working population from which the sample was drawn. The study focused on grade two administrative unit respondents the majority of whom were poor. Twenty (20) administrative units were clustered based on the predominance of micro and small businesses. MSEs that were flourishing were removed from the twenty administrative units. The cluster resulted in the selection of six administrative units that were predominately associated with MSEs of grade two and primarily comprised of the poor. Kagugube, Kamwokya, Kisenyi, Nakasero, Nakivubo, and Mengo were the six administrative units selected. To avoid sampling bias, the researcher further divided the administrative units into micro and small businesses, from which samples were taken. In addition, the final responders were chosen utilizing systematic sampling. The sampling interval was computed by dividing the total number of micro and small business owners in the chosen administrative unit by the stratum sample size to arrive at the nth term. The first respondent was chosen at random, followed by the subsequent respondent based on the sampling interval, until the strata sample size was calculated. The above procedure was repeated for each of the Kampala Central

Fig. 1 Conceptual model.
Source: Hayes (2012, 2018)
Model 1



Division's administrative units.The researcher introduced to the respondents the intent of the analysis, being academic and requested a few minutes of their time to fill the survey instrument. Respondents were told that their participation in the research was optional, and they were promised confidentiality by anonymity. A closed-end self-administered questionnaire was used to collect data from six administrative units in Kampala. A total of 430 micro and small business owners in Kampala were to be identified as part of the study. A total of 405 of the 430 questionnaires sent to these business owners were filled out and returned, yielding a response rate of 94 percent above the appropriate 50 per cent threshold. Due to respondents only filling out one variable on ten (10) of the 405 returned questionnaires, they were eliminated from the analysis, leaving 395 respondents. In terms of statistical analysis, descriptive statistics for the variables of interest were generated first, followed by a correlation analysis to determine the relationship between the variables. Second, the study looked into the role of self-control in the relationship between financial literacy and saving conduct among micro and small business owners in Kampala, Uganda. According to Hayes (2012) moderation analysis was used to test whether the magnitude of the explaining variable (financial literacy) affects the explained variable (saving behavior) of concern depends on a third variable (self-control). The interaction between X (financial literacy) and the moderator variable (W) (self-control) is generally statistically interpreted as a moderated effect. This study analyzed the moderation using Hayes (2018) PROCESS macro v3.2 (Model 1). Statistics show 55.9% of respondents were male, and 44.1% were female. The age group 31–35 ($N = 150$) had the most respondents (38%) and the age group 15–20 ($N = 2$) had the least (0.5%). In addition, demographic figures indicate that most respondents were married ($N = 290$) with 73.4%, while those who lost their spouses were the least married ($N = 5$) with 1.3%.177(44.8%) of respondents had completed secondary education and 7(1.8%) had completed postgraduate education. Income level results found that the majority of respondents earned income in the range of 400,001–700,000 Ugx was 181 with 45.8% and those earning less than 200,000 Ugx were 6 with 1.5%.

Measures

Saving Behavior

The dependent variable in this study was saving behavior, and the researcher adopted and modified Chowa and Despard (2014); Dangol and Maharjan (2018); Ariffin, Sulong, and Abdullah (2017) and Delafrooz and Paim (2011) measurements to meet the current study context. The 7-likert scale was used to rate statements that best represented their saving actions among respondents. The Dependent Factor was assessed on the basis of 9 factors with a likert scale ranging from 7- Strongly Agree showing the willingness of the respondent to demonstrate appropriate Saving Behavior to 1- Strongly Disagree suggesting weak Saving Behavior.

Financial Literacy

Arnone (2004) defines Financial Literacy as the skills that one acquires from education that mold one to act appropriately for better financial well-being. This was operationalized using measures adopted and modified from (Sebstad, Cohen, & Stack, 2006); (Schagen & Lines, 1996); (Atkinson & Messy, 2012) and (Ariffin et al., 2017). Eleven (11) elements have been modified to assess Financial Literacy using a 7-Likert scale ranging from 7- Strongly agree, implying that the respondent has a high degree of financial literacy to 1- Strong disagree implying a weak level of financial literacy. I know how to handle personal finances, I have a great understanding of how to manage my credit use, and I have a very clear idea of my potential financial needs, among other issues.

Self-Control

Self-control is the degree to which a person perceives himself to have power over circumstances and current situations. The study used 10 (ten) testing elements based on the 7-Likert scale ranging from 7- Strongly Agree to show the strong self-control of the respondent to 1- Strongly disagree that suggests weak self-control. I'm good at avoiding temptation, I do things that feel good at the moment but I regret later, I have more self-discipline, and I have a hard time breaking bad habits, to mention a few. These measurement items were adopted and modified from (Lindner et al., 2015); (Strömbäck, Lind, Skagerlund, Västfjäll, & Tinghög, 2017) and (Ariffin et al., 2017).

Covariates

Finally, the study included five control variables: age, gender, marital status, educational attainment, and income level. Seven categories were used to assess age and coded as; (1), 15–20 (2), 21–25 (3) 26–30 (4) 31–35 (5)36–40 (6) 41–45 and (7) above45. Gender was coded where male was 1 and female was 2. Measured marital status where 1 indicated married and 2 indicated single,3 if one was divorced and 4 in case one was a widow/er. The education level was measured by six categories ranging from primary, secondary, tertiary, undergraduate, postgraduate and none, the same applied to income level that ranged from, below 200, 000; 200,001-400,000; 400,001–700,000 and above 700,000.The choice of age, gender, marital status education and income level as control variables were based on previous studies by Delafrooz and Paim (2011) and Kostakis (2012).

Test to Establish Existence of Moderation Effect

In order to test for the interaction effect and explain whether self-control moderates the relationship between financial literacy and saving conduct, the conditions set by Baron and Kenny (1986) were used. Moderation analysis was used to determine the magnitude the explaining variable's had on the explained variable (Hayes, 2012). Baron and Kenny (1986) propose that the influence of the independent variable on the dependent variable varies as a result of changes in the moderator variable. The moderator variable (Self-Control) distinguishes the causal relationship between the independent variable (Financial Literacy) and the dependent variable (Saving Behavior) into distinct trends that define the relationship's direction and/or power (Baron & Kenny, 1986). A moderated effect is usually statistically modeled as the result of the relationship between X (Financial Literacy) and the moderator variable (V) (Self-Control).. Furthermore, for moderation to exist four criteria must be met. The independent and dependent variables must have a significant relationship; the independent and moderator variables must have a significant relationship; the dependent and moderator variables must have a significant relationship; and the independent, moderator, and dependent variables must have a significant relationship.

Results

The focus of this research was to see if financial literacy predicts saving behavior, if self-control predicts saving behavior, and finally, whether self-control acts as a moderator in the relationship between financial literacy and saving behavior among micro and small business owners in Kampala, Uganda.

Preliminary Analyses

For all variables in the analysis, Table I displays the means, standard deviations, reliability and correlation results. Saving activity has the highest mean of 5.8149 and the smallest standard deviation of.5872, whereas self-control has the lowest mean of 5.1379 and standard deviation of 1.5451.Moreover, the scale consistency was in the accepted range as the Cronbach' Alpha was above .7 for both saving behavior and financial literacy while slightly below .7 for self-control, .653. All variables were positively correlated with saving behavior, with self-control having the strongest relationship ($r = .432$, $p < .01$) and financial literacy having the strongest relationship ($r = .389$, $p < .01$).

To ensure construct validity, items of the instrument were subjected to principal component extraction with varimax rotation prior to regression analysis. To compare the magnitude of the observed correlation coefficients, the Kaiser–Meyer–Olkin (KMO) sampling adequacy measure was used. Factor analysis is not possible with KMO values below.5. Thirty questions about the study's variables were factored using principal component analysis with Varimax rotation (Table II). Three factors explained 34.411% of the variance for the entire set of variables, according to the study.

Table 1 Mean, Standard deviation, Reliability and Correlation

Variable(N=395)	M	SD(σ)	Reliability((α)	1	2
Saving behavior (1)	5.8149	.5872	.760		
Financial literacy (2)	5.7316	.6061	.759	.389**	
Self-control (3)	5.1379	1.5451	.653	.432**	.212**

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

Factor one was labeled 'Saving Behavior' with loading of only six items out of nine. This factor explained the variance of 14.689%. The second factor extracted from the study was financial literacy with loading of six out of eleven items. This aspect clarified 10.666% of the total variance. For self-control, four out of ten things loaded as factor three. This factor accounted for 9.057% of the variance. The significance of items in describing a construct is measured by factor loading. Low/zero loading of an item indicates that the item might not be a good measure of the construct, which is why zero loaded indicators are usually removed. The factor analysis showed a Kaiser – Meyer – Olkin sampling adequacy (KMO) value of.789, as well as a Chi-Square of 3217.308, df = 435, which was important at.000. The findings showed factor analysis suitability because the KMO was greater than.5 and Bartlett's test had a significant Chi-square.

Testing of Moderation

Table III findings display the conditional model review of the sample using the Hayes (2018) model macro v3.2 (Model 1). We tested how self-control links the path from financial literacy to savings behavior (shown as route 'b1' in Fig. 1). The model had an R2 of.566, which meant it explained 56.6% of the variance. The results show that both financial literacy and self-control are significant predictors of saving activity in the presence of the moderator (self-control), with financial literacy having a coeff. = 1.008, CI = .665, 1.351 and self-control having a coeff. =.877, CI = .526, 1.228. However, the findings show a negative coefficient (−.130), $p = .0000 < 0.05$, CI = (−.192, −.069) with respect to the interaction. At low values of the moderation (self-control) (3.593) the consequence of X (financial literacy) on Y (saving behavior) is high at .539 and is significant at ($p = .000$, CI = .399, .679).While at the moderate values of the moderation (5.138), the result of X (financial literacy) on Y(saving behavior) is moderate at .338 and is significant at($p = 0.000$, CI = .249,

Table 2 Factor Analysis

savings behavior	1	2	3
I usually pay attention on the amount of money I set aside	0.505		
I always stick to my money-management strategies	0.542		
When I receive money, I always set aside a portion of it	0.687		
I set aside money to accomplish specific objectives	0.546		
I usually set aside funds for the future on a regular basis	0.755		
In order to save money, I often consider whether a purchase is necessary before making it	0.551		
financial literacy			
I have knowledge about managing personal finances		0.594	
I'm more conscious of how to handle my money use		0.645	
I am capable of handling my finances		0.627	
I am capable of creating my own weekly (monthly) budget		0.572	
I have a great ability to control my finances		0.589	
I am able to keep track of my incomes or expenditures		0.6	
self-control			
When I have the money, pleasure and fun sometimes keep me from having work done.			0.606
When I deal with money, I sometimes continue to do something even though I know it's wrong.			0.618
I find it tough to break my spending habits.			0.565
I have always been unable to control myself by spending money			0.535
Eigen value	**5.858**	**2.479**	**1.986**
Variance (%)	**14.689**	**10.666**	**9.057**
Cumulative Variance (%)	**14.689**	**25.355**	**34.412**

KMO = .789, Bartlett's test of sphericity = 3217.308, df = 435, sig = .000.

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

.426).Whereas at the high values of the moderation (self-control) (6.683), the effect of X(financial literacy) on Y(saving behavior) is low at .136 and is significant at (p = .026,CI = -.016,.256).

The ModGraph in Fig 2 shows that the impact of financial literacy on savings behavior is high (.539) at low levels of self-control (3.59). This is indicated by the steepness of the slope. The impact of financial literacy on savings behavior is moderate (.338) at moderate levels of self-control (5.138), while the effect of financial literacy on savings behavior is poor (.136) at higher levels of self-control (6.683), as shown by the flattening curve.

The interaction between financial literacy and self-control is explained by the R-square of.030 percent in table IV above, which explains variability in saving behavior. Because of the low p-value of.000, hypothesis three is supported, implying that, in addition to financial literacy, small business owners must have some self-control in order to save.

Table 3 Moderation effect

R	R-SQ	MSE	F	df1	df2	P
.566	.320	.329	26.065	7.000	387.000	0.000
	coeff	se	t	p	LLCI	ULCI
Constant	−.747	.978	−.764	.445	−2.670	1.176
Self-control	.877	.179	4.909	.000	.526	1.228
Financial literacy	1.008	.174	5.776	.000	.665	1.351
Interaction term	−.130	.031	−4.146	.000	−.192	−.069
Gender	.019	.051	.366	.714	−.082	.120
age	−.018	.025	−.703	.482	−.068	.032
Marital	.118	.054	2.191	.029	.012	.224
educ	−.008	.031	−.265	.791	−.069	.053

Discussion

Financial literacy has a positive impact on saving behavior, according to the results of this study. FL accounts for 15.2% of the variance in saving behavior. As a result, hypothesis one was supported because the effect was positive and significant (β = .377, t = 8.381, $p < 0.05$). MSEs with financial literacy in Uganda were shown to have superior financial

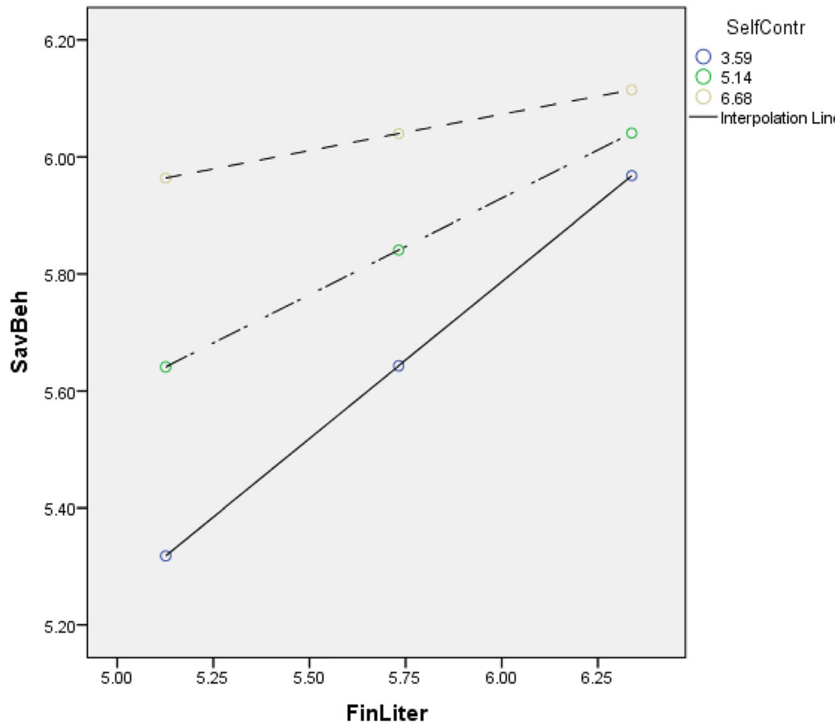


Fig. 2 Modgraph.
Source: Research data, 2020

management, whilst those without financial literacy were seen to be struggling. The study results were consistent with Kubilay and Bayrakdaroglu (2016) who noted that it would be difficult for an individual investor with insufficient financial literacy to make personal financial decisions. Financially illiterate individuals are less likely to save for retirement and accumulate income, according to A Lusardi and Mitchelli (2007) and Chen and Volpe (1998) claimed that a lack of financial knowledge rendered the students vulnerable, causing them to make poor decisions. The same was asserted that Ibrahim, Harun, and Isa (2009), claimed the same thing, claiming that potential investors, particularly those between the ages of 21 and 24, who lacked financial education, had poor money management abilities

In addition, results of this research indicate that self-control has a positive impact on savings behavior. This study results indicate that self-control predicts saving behavior by 18.7%.The relationship between self-control and saving behavior is positive and significant with (β = .164, t = 9.494, $p < 0.05$) thereby supporting the second hypothesis.

This suggests that self-control was a key factor in Uganda's MSEs. Business owners that have some self-control are able to manage their funds in a more controlled manner. Given

Table 4 Unconditional interaction test of highest order

	R-SQ	F	df1	df2	P
Interaction term	.030	17.187	1.000	387.000	.000

level of self-control, they are in position to save part of their money so as to use it later in the ploughing back in their businesses. This study was in line with a research by Esenvalde (2011), on self-control, achievement motivation, optimism, burnout on saving behavior, and it was established for self-control, achievement motivation positively contributed to saving behavior. It was established that individuals who had good self-control saved more money in both current and future financial circumstances (Strömbäck et al., 2017). MSEs with stronger self-control have a better behavioral disposition and are better able to manage their financial resources since they do not waste money on superfluous items or ineffective activities. According to this study, self-control moderated the relationship between financial literacy and saving behavior, as the interaction of financial literacy *self-control was positive and significant (coeff =0.331and p-value at 0.000). MSEs in Uganda are more likely to save money if they have self-control in addition to financial knowledge. Nonetheless, our findings indicate that financial literacy has a significant impact on saving activity for people with low self-control, suggesting that financial literacy has a significant impact on people with low self-saving control's behavior. Individuals with high self-control, on the other hand, the impact of financial literacy on saving behavior is low, meaning that the significance of financial literacy on saving behavior is marginal as self-control has a huge effect on saving behavior as people are already self-regulated, the effect of financial literacy would be small. Individuals with low self-regulation, the impact of financial literacy on savings behavior is strong because they are unable to monitor their spending and have no resources to control their actions, necessitating the need for financial literacy, which affects their savings behavior. As a result, our findings add to the body of knowledge in the field of behavioral finance.

Conclusion

The current research contributes to a better understanding of the role of financial literacy, self-control, and savings actions among micro- and small-business owners in Kampala, Uganda. Self-control moderates the relationship between financial literacy and saving habits, according to the report. Individuals' self-control standards must be tested before they are taught financial literacy. This is due to the fact that people with high levels of self-control are unconcerned about financial literacy because they already know what to do and their impact will be minimal; thus, they need specialized training in addition to financial literacy. Financial literacy is particularly important for people with weak self-control because it can have a big effect on their saving habits. These individuals will profit from the training more than those who already have good self-control.

Theoretical and Managerial Implications

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This study mirrors the assumptions in Behavioral life cycle hypothesis as it portrays the novel concerns surrounding personal savings programs in addition to self-control being an important factor in attaining a particular behavior. The linkage of self-control to comprehensive financial outcomes is shown in this paper, to demonstrate that self-control is as good as, if not better than, financial literacy as a predictor of financial outcomes. Both theories, Social Cognitive and Behavioral Life Cycle theory indicate that self-regulation is paramount in achieving desired outcome as demonstrated by Moffitt et al. (2011) where adult behaviors were seen to affect by childhood self-control, and that those who had developed self-control over time had better results than their counterparts. This suggests that institutions must increase self-management abilities in addition to financial knowledge in order to achieve the desired financial outcome.This research would assist the owners of these micro and small firms in better self-financing their businesses, thereby increasing their equity. These businesses can also expand their capital base, allowing them to better serve their customers. Individual financial literacy being a crucial component of any country's economic success allows people to make well-informed financial decisions, such as savings, that in turn help businesses flourish. Findings of this study, suggest that policymakers need to focus on increasing financial literacy among people from all walks of life through workshops, seminars, and community financial awareness programs in order to further affect individual saving rates. In addition to tailoring their financial products to individual needs, financial institutions, particularly banks, should establish financial literacy programs to raise awareness and provide savings outlets. As a result, financial literacy can have an impact on economic growth by contributing to savings and the development of the financial sector.

Limitations and Recommendations for Further Studies

This study focused on the personality trait of self-control, which is connected to conscientiousness. In the future studies, the model should include a more detailed definition of personality as it relates to personal finances since it incorporates all five personality traits of conscientiousness, extroversion, agreeableness, openness, and neuroticism. The research followed a quantitative examination as it was rigorous enough to yield accurate results. However future studies should take into account qualitative assessment to determine a comparison of the two approach results. This research was primarily done at Kampala, the central business district of Uganda. Regardless of the limited geographic area and demographic target, this study should be repeated in other parts of the world or countries with a larger target population, as the findings may differ. Finally, this study examines an individual's saving behavior at a single point in time (cross-sectional); it proposes that a longitudinal approach will yield more precise results.

Data Availability Statement The corresponding author [EM] will provide the data to back up this study's findings upon request.

Declarations

Conflict of Interest The authors do not declare conflicts of interest. In fact, no other person besides the authors played a role in the design of the study; in the compilation, examination or presentation of the data; in the preparation of the manuscript, or in the decision to report the findings.

Ethical Approval Initially, the researcher received approval from the Uganda National Council for Science and.

Technology to undertake research through a letter to gain access to the selected micro and small businesses. This letter was followed by an introductory letter from Moi University, a copy of the questionnaire with a cover page describing the study's significance and anticipated results.

Informed Consent In accordance with research ethics, the researcher adhered to research ethics rules, such as informed consent law where participants volunteered to engage in the study and were able to choose if they so desired, privacy, confidentiality, anonymity and accuracy. The study participants were required to have the study intent, planned methods, and duration. Participants were granted full disclosure of the scope of the project, the threats, advantages and alternatives, including an expanded opportunity to ask specific questions about this research. The researcher ensured patent, copyright, and other kinds of intellectual property were protected. The study maintained the full confidentiality of all information received by the researchers. Honesty has been preserved in the testing process; outcomes, processes and procedures to prevent data fabrication, falsification or misrepresentation. All quotations used and sources consulted by references were clearly distinguished and acknowledged.

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