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Article

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Article

Insurance Literacy: Significance of Its Dimensions for Insurance Inclusion in Uganda

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Abstract: The aim of the study was to establish the significance of the individual components of insurance literacy—knowledge, skills, attitude and behaviour—in explaining insurance inclusion in Uganda. The study was correlational and cross-sectional by design. Hence, 400 responses were obtained from individuals who enrolled for insurance. A hierarchical multiple regression analysis was adopted to test the predictive power of the dimensions of insurance literacy on insurance inclusion in Uganda. Before performing correlational and regression analyses, the study variables were tested for parametric assumptions, convergent and discriminant validity, common method variance and exploratory factors. The results of the study revealed that knowledge, skills and attitude significantly and positively predicted insurance inclusion in Uganda. Contrary to prior studies, behaviour was found to have an insignificant positive influence on insurance inclusion in Uganda. Overall, the individual components of insurance literacy explained 38.5% of the variation in insurance inclusion in Uganda. Notably, the current study contributes to the nascent literature on insurance literacy and insurance inclusion. Earlier studies have ignored the insurance component of financial inclusion. The originality of this study lies in that it is the first to examine the significance of the individual dimensions of insurance literacy towards explaining insurance inclusion. The implication of this study is that policymakers should consider insurance literacy in national financial inclusion strategies and financial literacy programmes in order to foster insurance inclusion.



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Keywords: insurance inclusion; financial inclusion; insurance literacy; financial literacy; insurance knowledge; skills; attitude and behaviour; Uganda

1. Introduction

Insurance inclusion has been underscored as a key driver towards economic growth and development in developed and developing economies (Bayar et al. 2021; Zulfiqar et al. 2020). As such, insurance serves as a risk management tool for societies by protecting people's lives and mitigating untimely loss of income and property (Lin et al. 2019; Cheston et al. 2018). Accordingly, Cheston et al. (2018) connote insurance inclusion as a state of access to and use of appropriate and affordable insurance products for the unserved and underserved. Inclusive insurance seeks to remove market barriers that prevent insurance institutions from reaching the poor, unserved and underserved segments of society (Lal 2019). According to Castellani and Viganò (2017), the inefficiency of financial markets in emerging economies deprives individuals living in rural settlements of the ability to mitigate risk. On that note, insurance aids individuals in accessing credit, guaranteeing savings and money transfer safety, and protecting middle- and low-income households from transactional financial losses (Dassanou and Sherchan 2018).

Whereas significant progress towards insurance access improvement has been made globally, vast segments of the low-income population remain excluded from insurance in

developing and emerging economies (AII (Access to Insurance Initiative) 2019). Globally, the number of unserved and underserved people with insurance services is estimated at 3.8 billion people living in low-income emerging markets (Cheston et al. 2018). Furthermore, the Swiss Re Institute (2022) noted that emerging-market premiums accounted for only 19.2 per cent of global premiums. In addition, 2022 estimates by the Microinsurance Network on the microinsurance market showed that less than 20% (377 million people) of the entire population in developing markets is insured (MIN (Microinsurance Network) 2022). Similarly, in Uganda, despite efforts by the Insurance Regulatory Authority and the Insurance Institute of Uganda to influence policies to foster the increased uptake of insurance, insurance exclusion has persisted (FSD (Financial Sector Deepening) 2018). The findings of a Finscope survey (Finscope 2018) indicate that 99% of Ugandans living in rural areas have no access to formal insurance.

Extant studies have attributed the low uptake of financial services to financial literacy inadequacies, especially in developing countries (see, for instance, Khan et al. 2022; Bongomin et al. 2020; Lyons and Kass-Hanna 2021; Lusardi et al. 2017). As such, Ozili (2020) advanced the financial literacy theory of financial inclusion and posited that financial inclusion could be attained through education aimed at fostering people's financial literacy. According to Khan et al. (2022), financial inclusion as an international policy agenda can be achieved through financially literate individuals making sound financial decisions to improve their well-being. Thus, the financial literacy theory argues that people's willingness to use formal financial services will be enhanced through financial literacy (Ozili 2020). In addition, the financial literacy theory contends that through financial literacy, people can be aware of the financial services and products at their disposal (Lyons and Kass-Hanna 2021; Bongomin et al. 2018; Mindra et al. 2017). With that financial knowledge, people's willingness to partake in the formal financial system by having formal bank accounts increases (Babych et al. 2018).

Additionally, Ozili (2018) notes that people can take advantage of other benefits of the formal financial sector, such as mortgage and investment products, with increased literacy. Thus, the requisite financial knowledge extended to financial literacy significantly fosters financial inclusion and enhances people's ability to plan for, save for and manage financial shocks (Atkinson and Messy 2013; Klapper et al. 2013). Financial literacy aids poor and vulnerable groups in evaluating complex financial services and products to avoid harmful consumption (Bongomin et al. 2020). Agarwal (2007) noted that inadequate awareness and comprehension of complex financial products due to ignorance and financial illiteracy lead to financial exclusion (Cole et al. 2011). Additionally, Babych et al. (2018) argue that individuals who are not familiar with financial products tend to discontinue the usage of financial services involuntarily. Thus extant literature concurs that financial literacy promotes financial inclusion (see, for instance, Morgan and Long 2020; Bongomin et al. 2020; Khan et al. 2022; Ozili 2020; Lusardi et al. 2017).

However, although several studies have used financial literacy to explain financial inclusion (see, for instance, Khan et al. 2022; Morgan and Long 2020; Bongomin et al. 2020; Ozili 2020; Lusardi et al. 2017), the focus has been on financial literacy for banking but not insurance inclusion. Yet, according to Lin et al. (2019), being financially literate does not imply being insurance literate. Accordingly, this study's novelty lies in not only showing the impact of insurance literacy on insurance inclusion but also examining the predictive power of individual dimensions (skill, knowledge, behaviour and attitude) of insurance literacy in explaining insurance inclusion in Uganda. Therefore, the current study sought to establish the significance of the individual components of insurance literacy in explaining insurance inclusion in Uganda. A cross-sectional research design was adopted to collect data from individuals who voluntarily enrolled for insurance. As such, the study hypotheses were tested using an ordinary least-squares (OLS) regression. The results showed that knowledge significantly and positively influences insurance inclusion. In addition, it was found that skills significantly and positively influence insurance inclusion. Similarly, it was found that

attitude significantly and positively influences insurance inclusion. On the contrary, the results showed that behaviour was not a significant predictor of insurance inclusion.

The rest of the paper is organized as follows: Section 2 reviews the related literature. Section 3 presents the methodology adopted by the study. Section 4 presents the study results and discussion. Section 5 presents our conclusions and recommendations, and Section 6 presents the study's limitations.

2. Literature Review and Hypotheses Development

2.1. Theoretical Literature Review

2.1.1. Financial Literacy Theory of Financial Inclusion

The current study is anchored on the financial literacy theory of financial inclusion advanced by Ozili (2020). The financial literacy theory posits that financial inclusion can be attained through education to foster people's financial literacy. According to Khan et al. (2022), financial inclusion as an international policy agenda can be attained through financially literate individuals who can make sound financial decisions to improve their well-being. Accordingly, financial literacy enhances the will of the people to use formal financial products and services (Ozili 2020). Furthermore, the financial literacy theory assumes that when people are financially literate, they can be aware of the various types of financial services and products available to them (Lyons and Kass-Hanna 2021; Bongomin et al. 2018; Mindra et al. 2017). In that regard, with the acquired financial knowledge, people develop a positive attitude and behaviour towards formal financial products and increases. Hence the willingness to partake in the formal financial system by having access to formal financial services such as bank accounts and credit accounts (Babych et al. 2018). Therefore, several scholars have concluded that to promote financial inclusion, financial literacy is a prerequisite (see for instance, Khan et al. 2022; Bongomin et al. 2020; Ozili 2020).

2.1.2. Social Learning Theory

The social learning theory by Bandura (1986) was adopted to articulate insurance literacy in the current study. The theory advances that people acquire knowledge from one another by imitating, observing and modelling as they interact socially (Bandura 1986). The social learning theory connotes that learning occurs when people watch their peers (models) in whom they believe and trust to have the required knowledge and credibility. By this, people can obtain and retain new skills and knowledge, which in turn influence behavioural changes and their ability to deal with daily life challenges (Ramsden 1992). Social learning theory resides in three main aspects: learning by observation, learning by modelling and learning imitation (Ormrod 1999). As such, Susan and Robyn (1994) posited that, in social learning theory, people acquire behavioural change through modelling and re-enforcement. In the social learning theory, cognition skills are influenced by different learning forms that impact people's ability to realise outcomes and eventually change their behaviour.

Drawing from the social learning theory, those unserved and underserved by insurance providers learn by interacting in their societies, through which they start to comprehend and conceptualise values, obtain knowledge, and develop an attitudinal change towards insurance. Thus, according to Campbell (2006) as well as Grable and Joo (2001), learning about financial aspects boosts one's financial knowledge and changes consumers' economic attitudes. Conclusively, increased insurance inclusion can be attained when consumers learn through interaction and use their acquired insurance skills and knowledge to change their attitude and behaviour towards insurance.

2.2. Empirical Literature Review and Hypotheses Development

2.2.1. Knowledge and Insurance Inclusion

In agreement with prior studies that have evidenced the positive association between financial literacy and financial behaviour (see, for instance, [Ozili 2020](#); [Bongomin et al. 2017](#); [Mindra et al. 2017](#)), [Ruefenacht \(2018\)](#) argues that when people acquire insurance literacy, they obtain enhanced insurance product knowledge and awareness. Hence, insurance providers should educate their consumers about the fundamentals of insurance policies to make informed decisions about insurance purchases ([Weedige et al. 2019](#)). With the acquired knowledge, clients are able to decipher insurance information and choose such offers that best suit their needs. This comprehension reduces the chances of negative disconfirmation, thus increasing insurance inclusion ([Lin et al. 2019](#)). According to [McCord \(2012\)](#), lack of insurance knowledge and information negatively affects insurance decisions.

Furthermore, [Agarwal \(2007\)](#) argued that due to ignorance and financial illiteracy, financial exclusion increases due to the absence of awareness and comprehension of financial products and services. Additionally, [Cole et al. \(2011\)](#) connoted that poor households may not use financial products that they are not familiar with and comfortable with. Thus, financial literacy is handy in empowering them with financial knowledge to make sound decisions regarding financial products and services. Prior studies have indicated that financial literacy significantly improves financial awareness, attitudes towards financial services and familiarity with products (see, for instance, [Mindra et al. 2017](#); [Atkinson and Messy 2013](#); [Carpena et al. 2011](#)). Indeed, financial literacy can increase financial knowledge among low-income individuals, particularly in developing countries ([Bongomin et al. 2017](#)).

However, education levels are low in developing countries ([World Bank 2019](#)). In particular, studies have found that people lack general and specific insurance awareness ([Mathur et al. 2018](#); [Lin et al. 2019](#); [Villagra et al. 2019](#)). Low-income clients have little or no experience dealing with insurance ([International Association of Insurance Supervisors 2020](#)). According to [Kubitza et al. \(2019\)](#), customers were found to confuse savings with insurance under the pretext of expecting a form of return as a premium. Therefore, researchers believe that, in addition to elementary reading and math literacy, consumers must attain insurance literacy to navigate insurance plans ([Mathur et al. 2018](#)). In that regard, we hypothesise the following:

H1. *Financial knowledge positively influences insurance inclusion in Uganda.*

2.2.2. Skills and Insurance Inclusion

Research has revealed that to ensure the financial sustainability of individual households and society, there is an urgent need to address financial illiteracy and underinsurance ([Weedige et al. 2019](#)). As such, [Cvitanović \(2018\)](#) contended that unless insurance consumers obtain a comprehension of the tenets of the concept of insurance, insurance exclusion will remain inevitable. Additionally, [Tennyson \(2011\)](#) noted that when people get accustomed to financial products or services, they are highly likely to adopt and use them. Thus, the [OECD/INFE \(2020\)](#) argued that it is pertinent to acquaint people with financial literacy to make prudent financial decisions and have sustainable economic well-being. Furthermore, given the complexity of financial products and services, it becomes vital for people to understand the risks and uncertainties associated with their choices ([Lusardi and Mitchell 2014](#)). Hence, insurance literacy becomes essential for individuals to fully participate in their societies ([Potrich et al. 2016](#); [OECD/INFE 2020](#)).

However, [Weedige et al. \(2019\)](#) note that few individuals in developing economies possess the basic literacy to comprehend insurance information. Additionally, given that being financially literate does not automatically imply having insurance literacy, it becomes hard to understand how consumers make financing decisions in risky and uncertain circumstances ([Lin et al. 2019](#)). Furthermore, [Tennyson \(2011\)](#) connoted that the decision to acquire insurance is more complex than other financing decisions, such as opening

a savings account and getting credit. On that note, insurance consumers do not buy the appropriate insurance since people misunderstand what is covered and what is not (Rice Warner 2016). Additionally, low-income earners might not be aware of the insurance fundamentals and lack information about their risks (Uddin 2017). Bongomin et al. (2020) argued that low-income earners should attain a basic level of financial comprehension and skills to evaluate and compare financial products, such as insurance. Accordingly, Lusardi et al. (2017) noted that financial literacy empowers the poor with knowledge and skills to evaluate complex financial products and services. The acquired financial skills enable the financially excluded to make rational financial decisions to maximise the utility of those financial products and services (Bongomin et al. 2020). Based on the above, we hypothesise the following:

H2. *Financial skills positively influence insurance inclusion in Uganda.*

2.2.3. Attitude and Insurance Inclusion

Holzmann (2010) argued that the willingness to save for, borrow, or use an insurance product affects financial inclusion among poor households in low-income countries. Accordingly, Willis (2010) connotes that attitude can be seen as the desire to plan for one's finances through saving, borrowing and insurance. From that perspective, purchasing financial products and services by people in developing countries depends on their attitude and trust in financial institutions (Finscope 2018). However, scholars have pointed to negative perception as a major factor in deterring insurance purchases (Giné et al. 2008). When people possess relatively higher levels of financial literacy, chances are high that they have a positive attitude towards insurance (Cole et al. 2013). A high level of insurance literacy helps individuals understand the benefits and detriments embedded in insurance policies, hence make sound insurance decisions (Cole and Fernando 2008). Therefore, insurance education should be one of the major focus areas for development agencies, governments and micro-insurance providers to popularise insurance and microinsurance (Cheston et al. 2018).

In that regard, the unserved and underserved's illiteracy regarding the working and pricing of various products and services contributes to reducing the possibility of inclusion (Sanjeewa and Hongbing 2019). A lack of awareness about essential measures to boost trust and safeguard consumers minimises the demand for appropriate insurance products (Uddin 2017). According to Bongomin et al. (2017), a gap exists regarding the potential for financial products to meet specific requirements and confidence levels, hence lowering attitudes and trust in financial institutions. There is a dearth of knowledge on how financial products create poor attitudes towards consumption. This poor attitude reduces the likelihood of demanding financial services (Bongomin et al. 2020). According to the FinScope survey (Finscope 2018), financial illiteracy, distrust in financial institutions and negative attitudes were significant barriers towards the demand for financial products and services in Uganda. On that basis, we hypothesise the following:

H3. *Financial attitude positively influences insurance inclusion in Uganda.*

2.2.4. Behaviour and Insurance Inclusion

Although few studies have been conducted on insurance literacy (see, for example, Weedige et al. 2019; Sanjeewa and Hongbing 2019; Lin et al. 2019; Mathur et al. 2018; Uddin 2017; Driver et al. 2018), empirical evidence shows financial literacy has a direct significant and positive influence on behavioural intent (Tennyson 2011). From this perspective, extant studies have found that financial coaching initiatives positively changed the financial behaviour of participants towards taking up financial services (see, for instance, Sun et al. 2020; Verma and Garg 2016). In addition, Mutlu and Özer (2022) argued that financial behaviour is a conduit for financial literacy for the uptake of financial services.

Additionally, [Supanantaroek et al. \(2017\)](#) found that financial literacy positively and significantly affected primary school pupils' saving and spending behaviours in Uganda. Similarly, [Lyons and Kass-Hanna \(2021\)](#) advanced that households with higher financial literacy levels are more likely to have positive savings behaviours and less likely to borrow from informal sources of finance. According to [Holzmann \(2010\)](#), positive financial behaviour among vulnerable groups shows their ability to draw budgets, plan, save and use basic financial services. As such, financial knowledge yields various behaviours, such as saving, insurance, planning for retirement, participating in financial markets, opening bank accounts and proper debt management ([Bongomin et al. 2017](#)). From the insurance perspective, [Qureshi and Reinhard \(2020\)](#) connotes that the financial behaviour of individuals determines default premium payments. Such individuals lack proper cash flow management behaviours, resulting in involuntary exclusion. Based on the above, we hypothesise the following:

H4. *Financial behaviour positively influences insurance inclusion in Uganda.*

3. Research Methodology

The current study used primary data to collect responses from individuals who voluntarily enrolled on an insurance policy. Individuals provided responses to a closed-ended five-point Likert scale questionnaire ranging from strongly disagree to strongly agree. The data were collected from July 2022 to August 2022. Primary data were preferred given their ability to provide information regarding perceptual and behavioural aspects of the respondents as required in this study. The study population comprised 314,501 individuals with individually purchased and fully paid-for insurance policies ([Uganda Bureau of Statistics 2021](#)). The targeted individuals were located in the 13 sub-regions of Uganda ([Uganda Bureau of Statistics 2021](#)). The sampling frame for the current study was the 2019/20 Uganda National Household Survey (UNHS) mapping listing provided by the [Uganda Bureau of Statistics \(2021\)](#). This sampling frame has 78,950 enumeration areas (EA). [Uganda Bureau of Statistics \(2021\)](#) states that "an EA is a natural village in rural areas and a city block in urban areas". As such, Uganda comprises 112 managerial districts; every district is subdivided into sub-counties, every sub-county is divided into parishes, every parish is divided into villages, and every village is divided into enumeration areas. Each enumeration area comprises ten households. The sampling frame entails information regarding an enumeration area's location and residence type (urban or rural).

The study used [Yamane's \(1973\)](#) formula to determine the sample size. The formula was adopted because the method has a direct sample size for the current study's population of 314,501. Moreover, social sciences research has broadly adopted [Yamane's \(1973\)](#) formula for sample determination. Contextually, previous financial inclusion studies by [Bongomin et al. \(2018\)](#) and [Mindra et al. \(2017\)](#) produced reliable results when they adopted Yamane's formula (1973) to determine their studies' samples. Therefore, a sample size of 400 respondents from a population of 314,501 was determined using [Yamane's \(1973\)](#) formula, as indicated below.

$$n = \frac{N}{1 + Ne^2}$$

where:

n = sample size;
 N = total population;
 e = tolerable error.

$$n = \frac{314,501}{1 + 314,501(0.05)^2}$$

$$n = 400$$

A single-stage sampling procedure was adopted to select the respondents. Using [Uganda Bureau of Statistics \(2021\)](#) sampling frame lists, stratified random sampling was

adopted to select 400 respondents from 13 sub-regions. The lottery technique was used by assigning every household a number; the numbers were picked randomly, one at a time, without replacement until the target sample was reached. From every household, an adult person (18–65 years) who individually fully paid for insurance was purposively selected as a respondent.

Accordingly, insurance inclusion was measured in terms of access and usage as suggested by [Cheston et al. \(2018\)](#) and [OECD/INFE \(2020\)](#). Furthermore, insurance literacy was measured in terms of knowledge, skills, attitude and behaviour as suggested by [Weedige et al. \(2019\)](#) and [Lin et al. \(2019\)](#). Measurement items were anchored on a five-point Likert scale ranging from strongly disagree to strongly agree; this scale was chosen owing to its strength of clarity with the opportunity for gradation as suggested by [DeVellis \(2016\)](#). The data were managed following the research of [Field \(2017\)](#). Accordingly, ordinary least-squares regression was adopted to test the study hypotheses. According to [Field \(2017\)](#), ordinary least-squares regression is able to estimate relationships between variables. Moreover, previous studies have used ordinary least squares regressions with hierarchical regression analysis to examine the significance of predictor variables (see, for instance, [Nkundabanyanga et al. 2020](#); [Ahimbisibwe et al. 2016](#); [Bongomin et al. 2017](#)). In that regard, prior to testing of study hypotheses, diagnostic tests and exploratory factor analysis (EFA) were performed. Diagnostic tests were performed to ensure that the data were free of bias and fit for further statistical tests.

In light of this, collected data were analysed using SPSS to produce the desired statistics. Before the analysis, data were cleaned by checking for data entry errors, missing values and outliers. Descriptive statistics were run for the study items to test for data normality. In addition, data were checked for validity and composite reliability ([Hair et al. 2019](#)). Further, convergent and discriminant validities were tested for in the study variables. Lastly, homogeneity of variance was considered in this study. Levene's test for variance equality, along with the t-test and the analysis of variance, was adopted. Accordingly, for homogeneity of variance to suffice, Levene's test must be insignificant ($p > 0.05$). Additionally, EFA was performed to create summated scales by condensing the number of variables under study constructs. According to [Hair et al. \(2019\)](#), exploratory factor analysis retains items that best explain a construct. Diagnostic tests and EFA results are presented below.

3.1. Diagnostic Tests Results

Diagnostics tests were performed to identify and correct for any sources of bias in the data. Data were tested for composite reliability, content validity, construct validity, discriminant validity and homogeneity of variance.

Composite Reliability, Construct Validity, Content Validity and Homogeneity of Variance

Diagnostic test results showed that all variables had composite reliabilities above the 0.7 cut-off and below the 0.95 ceiling. Specifically, study variables yielded composite reliabilities as follows: attitude (0.845), behaviour (0.814), knowledge (0.879) and skills (0.915). In addition, items were examined for content validity. Results showed that variables had content validity index above the 0.700 cut-off. The content validity indices were as follows: 0.800 for attitude, 0.750 for behaviour, 0.833 for knowledge, 0.750 for skills, 0.800 for access and 0.833 for usage. Additionally, study variables were tested for convergent and discriminant validity. Convergent validity was assessed using the average variance extracted. Results confirmed the presence of convergent validity. All variables had average variance extracted above 0.5 cut-off. Attitude had an AVE of 0.579, behaviour 0.600, knowledge 0.594, skills 0.728, access 0.535 and usage 0.655. Discriminant validity was assessed using heterotrait–monotrait (HTMT) ratio. All variables had HTMT ratios above 0.90, as recommended by [Henseler et al. \(2015\)](#) and [Voorhees et al. \(2015\)](#). Regarding common method bias, results revealed that all the variables had an insignificant Levene's test ($p > 0.05$). The Levene's test results were: knowledge = 1.053, skills = 0.009,

attitude = 1.168, behaviour 1.074 and insurance inclusion 4.711. Accordingly, insignificant Levene's tests indicate presence of homogeneity of variance. Thus, data were fit for further statistical tests.

3.2. Exploratory Factor Analysis

Before performing empirical tests, exploratory factor analysis (EFA) via principal component analysis (PCA) and common factor analysis (CFA) was adopted to analyse interrelationships between variables (Hair et al. 2019). Exploratory factor analysis enabled the creation of summated scales by condensing the number of variables in the study constructs (Field 2017).

3.2.1. Exploratory Factor Analysis for Insurance Literacy

Principal component analysis using Varimax with Kaiser normalization was undertaken to condense the number of variables under insurance literacy. The results showed that 16 items loaded well on the dimensions of insurance literacy with four components based on theory and empirical conceptualisation. The KMO was adequate at 0.924 with a significant ($p < 0.05$) Bartlett's test for sphericity. Additionally, only items with factor loadings above 0.50 were retained for each insurance literacy factor. Principle component analysis was undertaken, and four factors with eigenvalues greater than one were returned. Exploratory factor analysis was performed to test instrument item validity. The results showed that four factors of knowledge (19%), skills (16%), attitude (14%) and behaviour (13%) were generated. The generated factors explained 62% of the variance in insurance literacy, as indicated in Table 1. Table 1 also depicts how items loaded on the four factors of knowledge, skills, attitude and behaviour.

Table 1. Exploratory factor analysis for insurance literacy.

| | Knowledge | Skills | Attitude | Behaviours |
|--|-----------|--------|----------|------------|
| I am aware that insurance protects people from financial shocks. | 0.773 | | | |
| I have knowledge of insurance. | 0.755 | | | |
| I am aware of the different types of insurance policies. | 0.726 | | | |
| I know where to buy insurance. | 0.648 | | | |
| I easily understand insurance policies. | 0.588 | | | |
| I can compare various insurance policies and choose the best alternative. | | 0.790 | | |
| I have the ability to find an insurance policy that suits my needs. | | 0.722 | | |
| I can evaluate the affordability of an insurance policy for myself. | | 0.612 | | |
| I have the ability to make a personal insurance plan. | | 0.580 | | |
| Before signing an insurance contract, I carefully read its contents. | | | 0.615 | |
| I am careful to distinguish between necessary and unnecessary insurance policies. | | | 0.599 | |
| Before buying insurance, I ask myself if I can afford it. | | | 0.684 | |
| Before buying insurance, I ensure that my income is enough to cover the instalment payments. | | | 0.778 | |
| I am always willing to pay my insurance premium. | | | | 0.697 |
| I always plan for my insurance needs. | | | | 0.529 |
| I always shop around before buying an insurance policy. | | | | 0.771 |
| Eigenvalue | 5.128 | 2.526 | 2.224 | 1.941 |
| Variance % | 18.781 | 16.033 | 14.444 | 12.952 |
| Cumulative % | 18.781 | 34.814 | 49.259 | 62.210 |

Notes: Extraction method: principal component analysis; Rotation method: Varimax with Kaiser normalization; Rotation converged in 5 iterations; Kaiser–Meyer–Olkin measure of sampling adequacy = 0.924; Bartlett test for sphericity = 3764.846; significance level = 0.000.

3.2.2. Exploratory Factor Analysis for Insurance Inclusion

Principal component analysis (PCA) using Varimax with Kaiser normalization was performed to condense the number of variables for insurance inclusion. The results showed that 11 items loaded well on the dimensions of insurance inclusion with two components based on theory and empirical conceptualisation. The KMO was adequate at 0.918 with a significant ($p < 0.05$) Bartlett's test for sphericity. Furthermore, only items with factor loadings above 0.50 were retained on each insurance inclusion factor. Principle component analysis was run and returned two factors with eigenvalues above one. Exploratory factor analysis was undertaken to test instrument item validity. The results showed that two factors of usage (54%) and access (23%) were generated. These explained 77% of the variance in insurance inclusion, as shown in Table 2. Table 2 depicts how items loaded on the two factors of usage and access.

Table 2. Exploratory factor analysis for insurance inclusion.

| | Usage | Access |
|--|--------|--------|
| I intend to continue using insurance services. | 0.623 | |
| I would recommend others to buy insurance. | 0.681 | |
| If I need financial protection, I will purchase insurance. | 0.664 | |
| I expect to buy insurance in the future. | 0.810 | |
| I feel good about my decision to buy insurance. | 0.676 | |
| The probability that I would buy insurance in the future is high. | 0.830 | |
| The premium charged by the insurance company is affordable. | | 0.835 |
| I easily access my insurance provider when in need of insurance. | | 0.560 |
| The insurance products meet my insurance needs. | | 0.732 |
| Insurance agents come to you when you want to have an insurance policy. | | 0.802 |
| Minimum documentation is required by the insurance company to obtain a policy. | | 0.753 |
| Eigenvalue | 5.941 | 2.553 |
| Variance % | 54.008 | 23.213 |
| Cumulative % | 54.008 | 77.221 |

Notes: Extraction method: principal component analysis; Rotation method: Varimax with Kaiser normalization; Rotation converged in 5 iterations; Kaiser–Meyer–Olkin measure of sampling adequacy = 0.918; Bartlett test for sphericity = 2486.382; significance level = 0.000.

4. Empirical Results, Presentation and Analysis

4.1. Demographic Characteristics

The results showed that the majority of the respondents were female, accounting for 56% of the sample, while the male respondents accounted for 43.2% of the sample. The results showed that most of the respondents with individual insurance policies were in the age bracket of 34–49 years at 49.3%, followed by respondents aged 18–33 years at 45.8%. In contrast, only 5% of the respondents were 50–65 years. Regarding the highest level of education attained, the results indicated that most participants had earned a Bachelor's degree, representing 67.3%, while 16.5% of the respondents had an ordinary diploma. Furthermore, 11.3% of the participants had attained a Master's degree representing 11.3%. Lastly, 3.8% of the respondents had attained UACE certificates and 0.5% of the respondents held a PhD. The demographic results indicated that most respondents had a household size of four–six members, representing 48.8%. At the same time, 33% of the respondents had a household size of one–three members, followed by 17.5% with households of seven–ten members. Lastly, the smallest percentage, 0.8% of the respondents, had households of above ten members. Lastly, the results revealed that 97.5% of the respondents were involved in income-generating activities, while 2.5% were not involved in any income-generating activity. Accordingly, the majority (34%) of those involved in income-generating activities earned an income (Ugshs) within the UGX 1,550,000–2,050,000 range, while 21.3% earned an income in the range of UGX 550,000–1,050,000. Furthermore, 16.3% earned UGX 1,050,000–1,550,000 followed by 15.8% earning UGX 50,000–500,000. Lastly, 11.3% of the

respondents earned UGX 2,050,000–2,500,000 while only 1.5% earned less than UGX 50,000. Notably, the study’s sample size was representative of the study population as depicted by the Uganda Bureau of Statistics. According to the [Uganda Bureau of Statistics \(2021\)](#), there are more female insurance policy holders (57%) compared to males (43%). Additionally, Uganda Bureau of statistics indicate that 53% of the insured are in the 16–35 age range, 34% are in the 36–55 range, and 13% are in the 55–65 age range. Lastly, the UBOS indicates that 87% of the insured have at least attained secondary education in Uganda. Therefore, the study’s sample is representative of the population. Table 3 depicts the demographic characteristics.

Table 3. Demographic characteristics of the respondents.

| | Frequency | Percentage | Cumulative % |
|---|-----------|------------|--------------|
| Gender | | | |
| Male | 173 | 43.2 | 43.2 |
| Female | 227 | 56.8 | 100 |
| Total | 400 | 100 | |
| Age Bracket Distribution | | | |
| 18–33 years | 183 | 45.8 | 45.8 |
| 34–49 years | 197 | 49.3 | 95.0 |
| 50–65 years | 20 | 5.0 | 100 |
| Total | 400 | 100.0 | |
| Highest level of education | | | |
| Primary Leaving Examination (PLE) | 1 | 0.3 | 0.3 |
| Uganda Certificate of Education (UCE) | 2 | 0.5 | 0.8 |
| Uganda Advanced Certificate of Education (UACE) | 15 | 3.8 | 4.5 |
| Diploma | 66 | 16.5 | 21.0 |
| Degree | 269 | 67.3 | 88.3 |
| Master’s | 45 | 11.3 | 99.5 |
| PhD | 2 | 0.5 | 100 |
| Total | 400 | 100 | |
| Household Size | | | |
| 1–3 members | 132 | 33.0 | 33.0 |
| 4–6 members | 195 | 48.8 | 81.8 |
| 7–10 members | 70 | 17.5 | 99.3 |
| Above 10 members | 3 | 0.8 | 100 |
| Total | 400 | 100 | |
| Involved in Income Generating Activity | | | |
| Yes | 390 | 97.5 | 97.5 |
| No | 10 | 2.5 | 100 |
| Total | 400 | 100 | |
| Respondent’s Level of income | | | |
| Less than shs 50, 000 | 6 | 1.5 | 1.5 |
| UGX 50,000–500,000 | 63 | 15.8 | 17.3 |
| UGX 550,000–1,050,000 | 85 | 21.3 | 38.5 |
| UGX 1,050,000–1,550,000 | 65 | 16.3 | 54.8 |
| UGX 1,550,000–2,050,000 | 136 | 34.0 | 88.8 |
| UGX 2,050,000–Shs 2,500, 000 | 45 | 11.3 | 100 |
| Total | 400 | 100 | |

4.2. Descriptive Results

The results in Table 4 revealed that the mean values of the study variables range from 3.9233 to 4.2919, anchored on a five-point Likert scale. This implies that the respondents agreed that the items regarding knowledge, skills, attitude and behaviour were insurance inclusion determinants. The standard deviations ranged from 0.45719 to 0.58453. The results showed relatively small standard deviations. This indicates that the observed data are closer to the mean, hence are a good fit. Moreover, the standard errors of the estimate are

relatively small, implying that the sample means are similar to those from the population from which they are derived. This is a good indication that the sample for the data is an accurate representation of the population.

Table 4. Descriptive statistics for study variables.

| | N | Minimum | Maximum | Mean | Std. Error | SD |
|---------------------|-----|---------|---------|--------|------------|---------|
| Knowledge | 400 | 1.20 | 5.00 | 4.2550 | 0.02796 | 0.55925 |
| Skills | 400 | 1.00 | 5.00 | 4.2175 | 0.02923 | 0.58453 |
| Attitude | 400 | 2.00 | 5.00 | 4.2919 | 0.02621 | 0.52413 |
| Behaviours | 400 | 1.67 | 5.00 | 3.9233 | 0.02781 | 0.55618 |
| Insurance Literacy | 400 | 2.06 | 5.00 | 4.1927 | 0.02286 | 0.45719 |
| Insurance Inclusion | 400 | 1.00 | 5.00 | 4.2189 | 0.02483 | 0.49661 |

4.3. Correlation Analysis Results

The Pearson correlation analysis was adopted to establish the relationship between insurance literacy constructs and insurance inclusion, as shown in Table 5. The results in Table 5 revealed that there is a significant positive relationship between knowledge and insurance inclusion ($r = 0.548$, $p < 0.01$). This implies that a positive change in knowledge is associated with a positive change in insurance inclusion. According to Driver et al. (2018), people with insurance knowledge would be able to make good insurance decisions. Thus, insurance knowledge positively influences insurance inclusion. Furthermore, the results showed a significant positive relationship between skills and insurance inclusion ($r = 0.536$, $p < 0.01$). This implies that increasing one's insurance skills leads to increased insurance inclusion. According to Bongomin et al. (2020), people should attain a basic level of financial comprehension and skills to evaluate and compare financial products. The acquired skills influence insurance inclusion.

Table 5. Correlation between study variables.

| | Knowledge | Skills | Attitude | Behaviours | Insurance Literacy | Insurance Inclusion |
|---------------------|-----------|----------|----------|------------|--------------------|---------------------|
| Knowledge | 1 | | | | | |
| Skills | 0.736 ** | 1 | | | | |
| Attitude | 0.609 ** | 0.668 ** | 1 | | | |
| Behaviours | 0.376 ** | 0.402 ** | 0.441 ** | 1 | | |
| Insurance Literacy | 0.878 ** | 0.884 ** | 0.834 ** | 0.627 ** | 1 | |
| Insurance Inclusion | 0.548 ** | 0.536 ** | 0.556 ** | 0.344 ** | 0.619 ** | 1 |

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

Additionally, the findings indicated a significant positive relationship between attitude and insurance inclusion ($r = 0.556$, $p < 0.01$). This implies that one's attitude towards insurance influences insurance inclusion. In that regard, Finscope (2018) indicated that purchasing financial products and services by people in developing countries depends on their attitude and trust in financial institutions. The study findings also showed that behaviour is significantly and positively related to insurance inclusion ($r = 0.344$, $p < 0.01$). This implies that people's behaviour influences insurance inclusion. Accordingly, Mutlu and Özer (2022) found financial behaviour to be a conduit for financial literacy for the uptake of financial services.

4.4. Regression Analysis Results

The current study mainly sought to determine the significance of the individual components of insurance literacy in predicting insurance inclusion. Therefore, a hierarchical regression was adopted to establish whether all the dimensions of insurance literacy matter for insurance inclusion by establishing their predictive power on insurance inclusion. Accordingly, Table 6 describes the overall model fit. According to Pedhazur (1997), the

hierarchical regression is an appropriate tool for analysis when the variance of a criterion variable is being explained by predictor variables that are correlated with each other, as depicted in the correlation matrix in Table 5. However, the order of variable entry is determined by the researcher based on their theory before the analysis is conducted. From this perspective, the extant literature suggests that there is a positive correlation between financial knowledge and financial skills (see, for instance, [Ramalho and Forte 2019](#); [Potrich et al. 2016](#)). Hence, knowledge is entered in the first model as the predictor, followed by skills in the second model. In the same vein, it is suggested that financial knowledge and financial skills are positively correlated with financial attitude (see, for instance, [Ramalho and Forte 2019](#); [Hung et al. 2009](#)). Thus, knowledge, skills and attitude are entered in the third model as the predictors. Furthermore, the extant literature has shown that financial knowledge, financial skills and financial attitude are positively correlated with financial behaviour (see, for instance, [Ramalho and Forte 2019](#); [Potrich et al. 2016](#); [Garber 2016](#); [Hung et al. 2009](#)). Thus, knowledge, skills, attitude and behaviour are entered as the predictors in the fourth model.

Table 6. Hierarchical regression analysis.

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 |
|----------------|------------|-----------|-----------|----------|
| Constant | 2.147 | 1.1916 | 1.497 | 1.393 |
| Knowledge | 0.548 ** | 0.336 ** | 0.259 ** | 0.251 ** |
| Skills | | 0.288 ** | 0.143 ** | 0.133 ** |
| Attitude | | | 0.303 ** | 0.282 ** |
| Behaviour | | | | 0.072 |
| R^2 | 0.301 | 0.339 | 0.387 | 0.391 |
| Adjusted R^2 | 0.299 | 0.335 | 0.382 | 0.385 |
| R^2 Change | 0.301 | 0.038 | 0.048 | 0.004 |
| F Change | 171.151 ** | 22.856 ** | 31.051 ** | 2.591 |

** $p < 0.01$.

Regarding hypothesis H1, the results revealed that insurance knowledge significantly and positively predicts insurance inclusion ($\beta = 0.251$, $p < 0.01$). Thus, the results support hypothesis H1. This finding implies that as knowledge increases by one unit, insurance inclusion increases by 0.251 units. However, this finding holds only if the effects of skills, attitude and behaviour are constant. Additionally, the results showed an R^2 of 0.301 in the first model, which means that knowledge accounts for 30.1% of the variance in insurance inclusion.

In addition, the results indicate that skills significantly and positively predict insurance inclusion ($\beta = 0.133$, $p < 0.01$). Thus, hypothesis H2 is supported. This result means that as skills increase by one unit, insurance inclusion increases by 0.133 units. However, this finding holds only if the effects of knowledge, attitude and behaviour are constant. Notably, when skill was combined with knowledge in the second model, the R^2 increased to 0.339, meaning that the two predictor variables explained 33.9% of the variance in insurance inclusion. Additionally, skills accounted for an additional 0.038 or 3.8% of the variation in insurance inclusion when introduced into the model. The R^2 change of 0.038 was statistically significant ($p < 0.001$).

Regarding hypothesis H3, the results showed that attitude is a significant positive predictor of insurance inclusion ($\beta = 0.282$, $p < 0.01$). Hence, hypothesis H3 is supported. This finding implies that as attitude increases by one unit, insurance inclusion increases by 0.282 units. However, this finding holds only if the effects of knowledge, skills and behaviour are constant. Furthermore, the third model showed that knowledge, skills and attitude accounted for 0.387 or 38.7% of the variance in insurance inclusion. Attitude accounted for an additional 0.048 or 4.8% of the variation in insurance inclusion when introduced in the third model. The R^2 change of 0.048 was statistically significant ($p < 0.001$).

Lastly, the results indicated that behaviour does not significantly predict insurance inclusion ($\beta = 0.072, p > 0.05$). Thus, hypothesis H4 was not supported. In addition, when introduced in the fourth model, behaviour contributed only 0.004 or 0.4% of the variance in insurance inclusion. Moreover, the R^2 of 0.004 was insignificant ($p > 0.05$). Although there was a positive relationship, it was practically and statistically insignificant in explaining insurance inclusion. Nevertheless, the four predictors explained 39.1% of the variance in insurance inclusion. Overall, the adjusted R^2 was 0.385, implying that the adjusted R^2 was very close to the R^2 of 0.391. According to [Field \(2017\)](#), it is desirable that the adjusted R^2 be very close to or the same as the R^2 . Thus, the adjusted R^2 shrunk by 0.006 or 0.6%, implying that if the model were derived from the population rather than the sample, it would account for approximately 0.6% less variance in the outcome.

5. Discussion of Findings

5.1. Knowledge and Insurance Inclusion

The study findings revealed that knowledge has a significant positive influence on insurance inclusion. Thus, the hypothesis that knowledge has a positive relationship with insurance inclusion is supported. In that regard, when people know that insurance protects them from financial shocks, they opt to buy insurance. Awareness is the starting point in making a decision to purchase insurance. People cannot buy what they do not know. Additionally, the findings suggest that people's awareness of the various insurable risks enables them to choose what to insure since not all risks are insurable. Moreover, the results indicate that in addition to being knowledgeable about where to buy insurance, knowledge regarding the premium or price of insurance coverage influences insurance enrolment decisions.

The above findings concur with [Driver et al. \(2018\)](#), who argued that people without insurance knowledge would not be in a position to make good insurance decisions. Additionally, the findings agree with [Weedige et al. \(2019\)](#) and [Ruefenacht \(2018\)](#). They advised insurance providers to educate consumers about insurance policy fundamentals to make informed insurance purchase decisions. With the acquired knowledge, clients are able to decipher useful information and choose offers that best suit their needs. Accordingly, [McCord \(2012\)](#) noted that a lack of insurance knowledge and information negatively affects insurance decisions. Thus, the findings of this study are consistent with [Lin et al. \(2019\)](#), who noted that with acquired knowledge about insurance, negative disconfirmation is reduced, thus increasing insurance uptake.

5.2. Skills and Insurance Inclusion

The current study ascertained that insurance skills significantly and positively influence insurance inclusion. This finding supported hypothesis H2 of the study. The finding suggests that individuals need to develop skills to enable them to acquire insurance. Additionally, the results indicated that individuals skilled in planning their insurance needs could decide when and what insurance policy to purchase. Planning for insurance needs influences people's decisions on what, when and how to buy insurance. In that regard, these findings agree with [Lusardi and Mitchell \(2014\)](#) and [Tennyson \(2011\)](#). They posited that insurance acquisition is more complex than other financing decisions, such as opening a saving account and obtaining credit.

Hence, insurance consumers do not buy the appropriate insurance since people misunderstand what is covered and what is not ([Rice Warner 2016](#)). However, as found in this study, [Bongomin et al. \(2020\)](#) argued that people should attain a basic level of financial comprehension and skills to evaluate and compare financial products. With knowledge and skills, people can evaluate complex financial products and services ([Lusardi et al. 2017](#)). As such, in line with the current findings, acquired financial skills enable the financially excluded to make rational financial decisions to maximise the utility of financial products and services ([Bongomin et al. 2020](#)).

5.3. Attitude and Insurance Inclusion

The findings revealed that attitude significantly and positively impacts insurance inclusion. The findings are in support of hypothesis H3 of this study. Notably, the findings revealed that people's attitudes revolved around the various precautions that must be considered before enrolling for insurance. The findings showed that people carefully read the contents of the contract before enrolling for insurance. In addition, individuals act with utmost care to distinguish between necessary and unnecessary insurance policies. Such attitudes influence their decisions to buy insurance. Furthermore, the results showed that it was essential for people to judge the affordability of insurance coverage by considering their own financial situations. Due to the risk aversion attitude, individuals assess whether their income is sufficient to cover instalment payments before purchasing insurance. In doing so, insurance consumers avoid situations in which they fail to meet their obligations.

The current findings are consistent with the Finscope report (2018), which indicated that purchasing financial products and services by people in developing countries depends on their attitude towards and trust in financial institutions. The current findings also agree with Qureshi and Reinhard (2020), who found negative perception as a major factor in explaining exclusion from insurance services. Although findings have suggested that attitude positively influences insurance inclusion, Bongomin et al. (2017) found a usage gap that negatively affects attitudes towards financial institutions. Additionally, a dearth of knowledge on how insurance products work creates a poor attitude towards their consumption. Hence, this poor attitude reduces people's likelihood of demanding financial services such as insurance (Bongomin et al. 2020).

5.4. Behaviour and Insurance Inclusion

Lastly, the current study found that behaviour has an insignificant positive influence on insurance inclusion. Thus, this finding is in disagreement with hypothesis H4 of this study. This finding is in contention with prior studies, which showed that people's financial behaviour influences their decisions to purchase financial services. For instance, the results disagree with Holzmänn (2010), who found that positive financial behaviour among vulnerable groups exhibited their capability to draw up budgets, plan, save and use essential financial services. Similarly, from an insurance context, the study's findings are in contention with Qureshi and Reinhard (2020), who indicated that the financial behaviour of individuals determines whether they default on premium payments. Likewise, the current findings disagree with Lyons and Kass-Hanna (2021), who found that households with positive financial behaviour were most likely to seek finances from formal sources.

6. Conclusions

The current study contributes to the nascent literature on insurance inclusion by indicating that insurance literacy through knowledge, skills and attitude significantly predicts insurance inclusion in Uganda. However, although it has been argued as a component of insurance literacy, the current study finds that behaviour is an insignificant predictor of insurance inclusion in Uganda. To the best of the researcher's knowledge, this is the first study to establish the predictive power of the components of insurance literacy towards insurance inclusion. Financial inclusion studies have focused on financial literacy and its influence on financial inclusion. Yet, according to Weedige et al. (2019), financial literacy does not necessarily translate into insurance inclusion. Moreover, financial inclusion studies have ignored the insurance component of financial inclusion. The current study also contributes to the financial literacy theory of financial inclusion by showing that insurance literacy is relevant to attaining full financial inclusion.

Therefore, policymakers should ensure that insurance literacy is embedded into financial literacy programmes. In Uganda, financial literacy training programmes by bodies such as the Bank of Uganda have focused on the banking components of saving and credit. Henceforth, national financial inclusion strategies should embed insurance literacy since it is a vital driver of the insurance component of financial inclusion. Mainly, programmes

should focus on building people's insurance knowledge, skills and attitudes. This will enhance insurance inclusion in Uganda.

Nonetheless, the current study has some limitations. This study adopted a cross-sectional research design. This implied that changes in the behavioural characteristics of the respondents could not be captured. Yet, behavioural changes could affect the insurance decisions of the respondents. Given the study's cross-sectional nature, the causality between knowledge, skills, and attitude and insurance inclusion could not be concluded. Causality could be inferred if a longitudinal study was adopted. Moreover, the study used only quantitative data, thus ignoring qualitative data. The current study considered individuals who voluntarily enrolled for insurance, irrespective of their special interests. Therefore, future studies could adopt a mixed-methods study with qualitative data for triangulation. Qualitative data could proffer reasons for the insignificant findings regarding the effect of behaviour on insurance inclusion. In addition, future studies could investigate the significance of the components of insurance literacy towards insurance inclusion by sampling special interest groups, such as refugees, ethnic minorities, disabled persons and other vulnerable groups. Future studies should be undertaken to check the established findings.

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