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Determinants of Financial Literacy and its Effect on Stock Market Participation among University Students in Ghana

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ABSTRACT

The study examined determinants of financial literacy and stock market participation in Ghana. The study also examined the relationship between financial literacy and stock market participation among university students in Ghana. The study involved surveying 400 University of Ghana students to assess their level of financial literacy, stock market participation, and explore potential influencing factors. The study analysed data using ANOVA and multiple regression analysis. The findings of the study revealed that students exhibited limited knowledge in various financial literacy areas, including interest compounding, time value of money, inflation, money illusion, stocks, bonds, mutual funds, and investment risk diversification. Moreover, the study identified male, older, postgraduate students, and those with more working experience as comparatively more financially literate and active participants in stock market activities. Additionally, a positive relationship between financial literacy and stock market participation in Ghana was established. Other determinants of stock market participation included age, gender, course of study, and income levels. Based on these findings, it is recommended that the Ministry of Education implement significant initiatives to enhance financial literacy education among tertiary students. Furthermore, financial institutions should increase advertising efforts to promote awareness about various financial products.

Keywords: Financial Literacy, Stock Market Participation, University Students, Ghana
JEL Classifications: G20, G40, G41, G51, G53

1. INTRODUCTION

In Ghana, financial literacy is essential for promoting stability and economic empowerment among the populace (Sarpong-Kumankoma et al., 2023). People who are financially literate have the information and abilities needed to make wise financial decisions for the rest of their life (Chen et al., 2023; Twumasi et al., 2021). In Ghana, where a large segment of the populace struggles financially, financial literacy is essential for encouraging thrifty spending, budgeting, and smart money management (Twumasi et al., 2021; Musah and Duker, 2020). Furthermore, with Ghana's economy growing and financial services expanding, there is an even greater need for financial literacy in order to successfully manage the complexity of today's financial systems, which include banking, investing, and retirement planning (Akakpo et al., 2022; Baidoo et al., 2018). A sufficient level of financial literacy can enable Ghanaians to make wise investment decisions, interact with formal financial institutions more effectively, and safeguard themselves from certain financial hazards (Kuffour and Adu, 2019; Sarpong-Kumankoma, 2023). In the end, encouraging financial literacy in Ghana is a crucial tactic for improving people's general financial health, stimulating the economy, and advancing socioeconomic development in the nation (Baidoo et al., 2018). The repercussions of poor financial behaviour extend beyond individuals, impacting the global economy, as demonstrated by events like the U.S. mortgage bubble (Arts, 2018). The S and P's global financial literacy survey underscores the prevalence of financial illiteracy across developed and developing economies (Klapper and Lusardi, 2020). However, existing evidence primarily relies on data from developed and emerging economy studies, necessitating a broader exploration of this issue. The need for financial literacy is very important especially in developing countries where citizens did not make good financial decisions to will enable mobilization of private capital by businesses to improve growth (Sarpong-Kumankoma, 2023).

In Ghana, where approximately 20% of the literate population comprises tertiary students (UNESCO, 2006), despite being educated, many individuals lack the skills for informed financial decision-making (Lusardi, 2008). Inadequate personal finance education contributes to challenges in making sound financial choices (Renuka and Raju, 2020). Given individuals' increasing financial responsibilities, the demand for financial literacy is critical (Sivaramakrishnan et al., 2017; Kadoya et al., 2017). Defined as the application of financial knowledge for enhanced financial well-being (Xiao and Porto, 2017), financial literacy plays a crucial role in university settings where students are expected to make informed financial decisions, including participating in stock markets (Lusardi and Mitchell, 2014). The literature extensively explores determinants of stock market participation, highlighting financial literacy as a significant factor correlated with individuals' involvement in stock markets (Chen et al., 2023; Zou and Deng, 2019; Kuffour and Adu, 2019; Hermansson et al., 2022). As globalization emphasizes the essential role of financial literacy in business, the economy, and the country at large, there is a pressing need for comprehensive research in the Ghanaian context (Akakpo et al., 2022).

The discourse on financial literacy, particularly in the context of global financial uncertainties, has garnered significant scholarly attention, predominantly within developed countries. Despite comprehensive studies in developed nations highlighting the lack of financial knowledge in basic financial matters, including interest compounding and risk diversification, there is a paucity of research in developing countries, notably in Ghana (Sarpong-Kumankoma et al., 2023; Twumasi et al., 2021; Karakara et al., 2022; Akakpo et al., 2022). Notably, few studies have explored financial literacy among university students, revealing varying levels of knowledge and its potential impact on credit card usage, debt levels, stress, and academic performance (Ergün 2017; Hidayati et al., 2021; Kimiyaghalam and Safari, 2015; Lusardi and Mitchell, 2014). In the Ghanaian context, recent financial frauds, particularly in microfinance institutions and the banking sector, underscore the critical importance of financial literacy. This study addresses the existing gap by investigating the financial literacy levels and determinants among university students at the University of Ghana, responding to the urgent need for such research in a developing country setting.

Furthermore, an in-depth investigation is necessary to address the important research question about the relationship between financial literacy and stock market involvement in Ghana especially by University Students. Although financial literacy is widely acknowledged as a crucial factor in influencing people's financial decision-making, there is still a lack of research on the precise relationship between financial literacy and stock market involvement in Ghana. The majority of the literature that has already been written about financial literacy concentrates on its broad implications, ignoring the subtle aspects that affect stock market participation in Ghana (Sarpong-Kumankoma et al., 2023; Twumasi et al., 2021). Given Ghana's distinct economic and cultural environment, the study dilemma stems from the need to comprehend the precise mechanisms via which financial literacy influences people's decisions to engage in the stock market. This gap in knowledge hinders the development of targeted interventions and policy recommendations aimed at enhancing stock market participation, a crucial element for economic growth and individual wealth accumulation in the Ghanaian context.

The lack of empirical data in Ghana about the relationship between stock market involvement and financial literacy has left a large gap in our knowledge of the behaviours of individual investors. Previous research in other settings has shown a positive association between stock market participation and financial literacy, indicating that those who are more financially literate are also more willing to invest in stocks (Chen et al., 2023; Bucher-Koenen et al., 2021; Thomas and Spataro, 2018; Sivaramakrishnan et al., 2017; Kadoya et al., 2017). However, some studies reported statistically insignificant relationship between financial literacy and stock market participation (Akakpo et al., 2022; Banyen and Nkuah, 2015). These studies argue that other socio-cultural factors could be responsible for the differences in research outcomes on the relationship between financial literacy and stock market participation. Also, there is scarcity of evidence of other factors that predict university students' level of stock market participation in Ghana. Given Ghana's unique economic circumstances, financial system, and cultural aspects, it is unclear how applicable these findings would be in that nation. The research challenge thus encompasses the requirement for empirical studies that are especially adapted to Ghana in order to determine whether and how stock market involvement is influenced by financial literacy as well as to identify any distinctive elements that might mediate or mitigate this relationship. Addressing these gaps is essential for formulating effective financial education programs and policies that promote inclusive stock market participation, contributing to both individual financial well-being and the overall development of the Ghanaian financial market.

This study contributes significantly to existing literature by providing a comprehensive examination of financial literacy levels among tertiary students in Ghana. While previous research has emphasized the importance of financial literacy, this study adds depth by specifically focusing on the Ghanaian context, thus enriching the global understanding of financial literacy disparities among students. The identification of influential factors such as gender, age, academic specialization, and work experience provides a nuanced portrayal of the determinants of financial literacy. The study also extends previous studies on stock market participation by examining the influence of demographic factors that predict stock market participation. This contributes valuable insights that can be integrated into the broader discourse on financial education and literacy, informing researchers, educators, and policymakers alike.

In terms of policy implications, the findings underscore the need for targeted interventions to improve financial literacy and stock market participation among tertiary students in Ghana. The identification of specific demographic groups, including males, older students, and those pursuing business-related courses, as more financially literate, allows policymakers to tailor initiatives to address the unique needs of these populations. The recommendation for financial literacy modules in the academic curriculum and dedicated awareness weeks aligns with policy strategies that can be implemented at the university level. Additionally, the involvement of government ministries, such as the Ministry of Finance and Ministry of Education, is highlighted as crucial in spearheading national-level financial literacy campaigns.

From a practical standpoint, the study's insights offer actionable guidance for educators, financial counsellors, and institutions involved in shaping the financial literacy landscape of Ghanaian students. Understanding the specific characteristics associated with higher financial literacy and stock market participation levels allows for the design of targeted educational programs and resources. This, in turn, empowers students to make informed financial decisions and actively participate in economic activities such as stock market investments. The study's emphasis on the interconnectedness of financial literacy with demographic factors emphasizes the holistic nature of financial well-being, guiding practical efforts to enhance students' financial capabilities.

2. THEORETICAL REVIEW

The Theory of Planned Behaviour (TPB) serves as a valuable framework for understanding the determinants of financial literacy among university students (Shen et al., 2018). According to TPB, individual intentions to engage in a behaviour are influenced by three main factors: attitudes, subjective norms, and perceived behavioural control (Hidayati et al., 2021). In the context of financial literacy, attitudes reflect students' personal evaluations of the importance of being financially literate, while subjective norms capture the social pressures and perceptions of others regarding financial knowledge (Shen et al., 2018). Perceived behavioural control considers students' confidence in their ability to acquire and apply financial knowledge effectively. The TPB, thus, allows researchers to analyse how these factors collectively shape university students' intentions to enhance their financial literacy, providing insights into effective strategies for promoting financial education programs tailored to their needs.

Furthermore, the impact of financial literacy on stock market participation can also be explored through the lens of the theory of planned behaviour. Once university students possess a certain level of financial literacy, their intentions to participate in the stock market are likely influenced by their attitudes toward stock market investment, subjective norms from peers or family endorsing or discouraging such participation, and perceived control over their ability to navigate the complexities of the stock market (Twumasi et al., 2021). TPB offers a comprehensive framework to analyse the interplay of psychological factors shaping students' decisions to engage with the stock market (Sarpong-Kumankoma et al., 2023). By examining the determinants of financial literacy and its subsequent effect on stock market participation through the TPB, researchers and educators can develop targeted interventions and educational initiatives aimed at enhancing financial literacy and promoting informed investment decisions among university students.

2.1. Determinants of Financial Literacy

In reviewing literature on financial literacy determinants, various socioeconomic and demographic factors emerge as significant contributors. Education, employment, gender and income have been consistently linked to financial literacy (Arts, 2018; Vieira et al., 2019). The independent effects of income, age, and education on cognitive skills and risk tolerance have been empirically established (Van Rooij et al., 2011). Gender differences have been noted, with studies suggesting that boys initially exhibit greater financial literacy, but this trend may be changing over time (Sarpong-Kumankoma et al., 2023; Lusardi et al., 2010). Gender gaps in financial literacy may stem from unobserved behavioral traits and societal norms (Aristei and Gallo, 2022). Some attribute these gaps to biases or differences in education, financial orientation, and socioeconomics (Adam et al., 2017). Cupak et al. (2018) note higher gender gaps in developed countries, with part of the gap explained by personal characteristics. Furrebøe and Nyhus (2022) highlight family economic socialization during childhood as vital, citing large gender differences in financial knowledge acquisition. Bottazzi and Lusardi (2021) stress the role of parental background and societal environments in gender differences. Rinaldi et al. (2022) link gender gaps in mathematical abilities to financial skills differences. Adam et al. (2017) finds male advantage in computational abilities. Cross-country studies reveal persistent gender differences in financial literacy, even with similar math abilities (Bottazzi and Lusardi, 2021). Academic success and career aspirations among high school students correlate positively with financial literacy (Mandell, 2008; Lusardi et al., 2010). Dedicated financial education programs in high schools have demonstrated the potential to enhance financial literacy (Arts, 2018). Parental financial literacy also plays a role, positively correlating with the financial literacy of their high school children (Lusardi et al., 2010). Family income and exposure to personal finance issues further contribute to financial literacy (Lusardi et al., 2010). Notably, students using credit cards for purchases and holding bank accounts tend to exhibit higher financial skills. On the basis of the above evidence, the study hypothesizes that;

Hypothesis (H1): The course a study studies, the level of study, the age of the student, the gender of the student and the work experience of the student influence financial literacy among university students in Ghana

2.2. Financial Literacy versus Stock Market Participation

Various studies have explored the relationship between financial literacy and stock market participation, presenting diverse perspectives. Research suggests that financial literacy is intricately connected to financial inclusion, and a lack of literacy, particularly in stocks, impedes households' engagement in the stock market (Arts, 2018; Grohmann et al., 2018). Chikalipah's (2017) investigation into financial inclusion in Sub-Saharan Africa identifies illiteracy as a major obstacle, hinting at a potential link between financial literacy and stock market involvement

(Chikalipah, 2017). However, Ozili (2020) challenges the notion that financial literacy alone is a panacea for inclusive finance, arguing that knowledge, while important, might not eliminate structural barriers hindering access to finance. In the context of limited stock market participation, studies have extensively examined determinants, with a notable focus on the influence of financial literacy. Van Rooij et al. (2011) analyze financial literacy's impact on stock market participation in the Netherlands, finding a positive correlation and improved stock ownership with higher literacy levels. Conversely, Banyen and Nkuah (2015) explore the low active involvement of Ghanaians in the stock exchange and report that financial literacy is not a significant determinant of stock market participation in Ghana, highlighting behavioral perspectives and the prevalence of financial illiteracy (Arts, 2018). This literature underscores the nuanced nature of the relationship between financial literacy and stock market participation, urging further exploration and understanding in different cultural and economic contexts.

Understanding the relationship between stock market involvement and financial literacy is essential to comprehending how people make financial decisions in the complicated world of finance. A person's inclination and capacity to trade stocks is greatly influenced by their level of financial literacy, which includes knowledge and abilities linked to financial ideas and management (Kadoya et al., 2017). People get a better grasp of investing instruments, risk management, and the possible profits associated with stock market involvement as their financial literacy increases (Douissa, 2020; Thomas and Spataro, 2018). Research keeps showing that there is a favourable correlation between having more financial literacy and being more likely to participate in the stock market (Arts, 2018; Hermansson et al., 2022). People who are financially educated typically make better decisions, evaluate investment risks more skilfully, and exhibit greater confidence when navigating the intricacies of the stock market (Sarpong-Kumankoma et al., 2023; Ergin, 2018). This relationship is especially important for enabling people to make wise investing decisions that complement their risk tolerance and financial objectives (Adam et al., 2017). On the other hand, due to perceived complexity and unpredictability, those with lower levels of financial literacy may experience anxiety, diminished confidence, and ultimately, a reluctance to engage in the stock market (Chen et al., 2023; Douissa, 2020). Furthermore, financial literacy serves as a link between people and the advantages of investing in the stock market. People are more equipped to take advantage of investing opportunities, diversify their portfolios, and maximize their wealth-building methods when they have a greater understanding of financial principles (Renuka and Raju, 2020). The relationship between investing in the stock market and financial literacy highlights the value of educational programs and materials that aim to increase financial literacy, provide people with the tools they need to make wise financial decisions, and build a more diverse and self-assured investor community.

The second research hypothesis based on the argument above will be;

Hypothesis (H2): Financial literacy positively influences stock market participation.

3. METHODOLOGY

The research employed a quantitative research approach, focusing on the graduate students of the University of Ghana as the target population. To ensure a comprehensive representation, the population was stratified based on their field of specialization, distinguishing between business students and non-business students. A stratified sampling technique was then utilized to draw a sample of 400 respondents, allowing for a balanced representation across the diverse units of the university. This approach aimed to capture insights from both strata effectively.

In collecting primary data for the study, a questionnaire was chosen as the main instrument. The questionnaire offered advantages such as ensuring respondent confidentiality and providing a standardized method of data collection, contributing to the overall objectivity of the gathered information. The questions in the questionnaire were designed in a closed-ended format, requiring respondents to provide direct and specific answers. This format facilitated a more streamlined response process, preventing excessive variability in responses and enhancing the clarity and interpretability of the collected data.

The study measured financial literacy using items that test respondents' knowledge on time value of money, savings, investments, interest rate and compound interest consistent with previous studies (Akakpo et al., 2022; Twumasi et al., 2021; Adam et al., 2017).

After collection of the primary data, data was coded and run using Statistical Package for the Social Sciences (SPSS) and comparisons done using ANOVA. Other quantitative data was presented in tables, charts and graph. The final part was a regression analysis to establish the relationship between financial literacy and stock market participation.

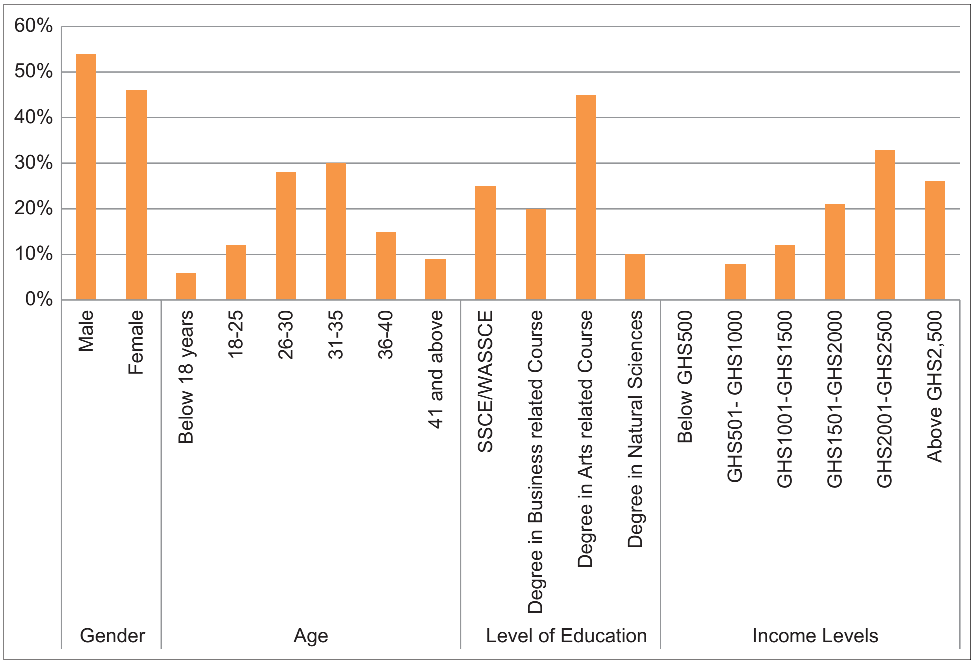
4. ANALYSIS AND DISCUSSION OF FINDINGS

4.1. Respondents Demographics

The demographic characteristics of the respondents were investigated, starting with gender, a factor recognized to influence financial literacy and stock market participation. The findings revealed in Figure 1 shows that approximately 56% of the respondents were male, while 46% were female. This distribution aligned with the general gender composition at the University of Ghana, where there is a slight male majority.

Age was the next demographic variable examined, considering its significance as a determinant of financial literacy among university students in Ghana. The results displayed a predominant age bracket of 31–35 years (30%), followed closely by 26–30 years (28%). Respondents aged above 41 years constituted the smallest proportion at 9%. The majority of respondents, amounting to 76%, fell within the youth classification according to the Ghana Youth policy, underscoring the importance of assessing the financial literacy levels of this demographic for policy formulation.

Figure 1: Respondents demographics



Monthly income was also scrutinized as a relevant demographic, given its potential impact on investment decisions, particularly in the stock market. None of the respondents reported earnings below GHS 500, with the highest income range being GHS 2,001 to GHS 2,500 (33%), followed by GHS 1,500 to GHS 2,000 (21%). About 12% of respondents earned above GHS 3,000. The relatively favourable income range could be attributed to the majority of respondents being postgraduate students, with the few undergraduates sampled being distance education students, as mainstream students were on vacation during the data collection stage. Further analysis revealed that 75% of respondents were postgraduate students, while the remaining 25% pursued undergraduate programs.

Educational background was considered in two dimensions: The current area of study and the respondents' educational background before undertaking their current studies. In terms of the current area of study, the study compared business-related courses to non-business courses, finding that 72% of respondents were enrolled in business-related programs, while 28% pursued non-business courses. The analysis of respondents' background education indicated that the majority had a non-business degree background (80%). This factor is likely to influence both financial literacy levels and participation in stock market activities.

4.2. Level of Financial Literacy and Stock Market Participation among Ghanaian Students

4.2.1. Level of financial literacy among Ghanaian students

The results presented in Table 1 indicate an average financial literacy score of 3.04 out of a maximum possible score of 8, reflecting an overall low level of financial literacy among the sampled 100 respondents. This suggests that, on average, respondents answered approximately 7 out of the total 20 financial literacy questions correctly, indicating a relatively low level of financial literacy among Ghanaian students. Some students did

Table 1: Descriptive statistics

Variables	Mean	Std. Dev	Min	Max
FLS (out of FLS of 8)	3.04	1.09	2	9
Age (years)	29.92	14.36	9	51
Income (GHS)	1,714.64	1,025	250	3,000
Education	1.95	0.672	1	3
SMP	1.05	0.593	0	2

Source: Field data, 2023

exhibit a medium level of financial literacy, achieving a financial literacy score of 3.6, representing 9 correct answers out of the overall 20 financial literacy questions.

These findings align with existing literature that has consistently reported low levels of financial literacy among students (Fatoki, 2014; Ansong and Gyensare, 2012). However, it's worth noting that there are studies, such as the one by Ergün (2017), which reported a medium level of financial literacy among university students in eight European countries. Similarly, Oppong-Boakye and Kansanba (2013) found a high level of financial literacy among undergraduate business students in Ghana. Beyond student populations, studies involving households have also identified low levels of financial literacy. For instance, there is widespread financial illiteracy among Dutch households (Van Rooij et al., 2011). Moreover, research across various countries globally has consistently reported low levels of financial literacy among individuals (OECD, 2016; Klapper et al., 2015; Atkinson and Messy, 2012; Lusardi and Mitchell, 2011).

The analysis also indicates that the average age of the 400 sampled respondents used in the study was approximately 29 years. This finding suggests that the average sample population was youthful, possessing the capability to engage in employment and, subsequently, participate in stock market activities. This underscores the importance of implementing targeted financial education policies aimed at the growing Ghanaian youth to enhance their financial literacy and investment knowledge. Moreover, the average income of respondents was around GHS 1,714. This income level, in my perspective, implies that respondents have the financial capacity to save or express an interest in various financial instruments, including stocks and bonds. This finding suggests a potential opportunity to promote financial literacy and investment awareness among this group. On the education front, the mean score of almost 2 indicates that, on average, respondents had a degree, making them well-qualified to respond to the study's questions. This aligns with the argument presented by Yoong (2011), emphasizing the critical role of respondents' education levels in assessing financial literacy. Considering the educational landscape in a developing country like Ghana, an average of a first degree is a reasonable educational benchmark for respondents in the context of financial literacy and stock market participation.

4.2.2. Level of stock market participation

To assess the extent of stock market participation, the study employed various indicators, querying respondents on ownership of instruments associated with the stock market in Ghana, their engagement with stock market-related news, and their intentions to purchase such instruments in the future. These instruments encompassed shares, long-term mutual funds with investment companies, and bonds. The findings revealed that only 20% of respondents possessed investments in shares, while 65% held investments in long-term mutual funds, and 5% had investments in bonds. Some respondents did not hold any investments associated with the stock market. Additionally, nearly 98% of respondents did not follow news related to the Stock Market. Despite this, respondents expressed an interest in acquiring stocks in the future, indicating a reliance on mutual fund managers to make profitable stock investments and manage them.

Table 1 above illustrates the study's utilization of a scale ranging from 0 to 2 to depict levels of stock market participation. In this scale, a score of 2 signified possession of shares, a score of 1 denoted possession of shares in the form of mutual funds, and a score of 0 indicated no stock market participation. The results suggest a moderate level of stock market participation, with a mean score of 1, indicating that, on average, respondents held mutual funds invested in shares.

4.3. Factors that Influence the Level of Financial Literacy

4.3.1. Subject area and financial literacy levels

The findings presented in Table 2 indicate that students enrolled in business courses tended to exhibit higher levels of financial literacy compared to their counterparts in non-business courses, although the observed difference was not statistically significant. Concerning overall financial literacy, students pursuing business courses, on average, correctly answered approximately seven out of the twenty questions, while non-business students answered six questions accurately. In terms of basic financial literacy, business students, on average, provided correct answers to about three out of the nine questions, whereas non-business students answered two questions accurately, with the difference being statistically significant at a 5% level of significance.

However, in advanced financial literacy, non-business students outperformed their business course counterparts, answering approximately four out of the eleven questions correctly, compared to business students who answered three questions accurately, although this difference was not statistically significant. The performance of science-oriented business courses was notably better in basic financial literacy, likely due to the calculation-oriented nature of the questions aligning with their academic background.

4.3.2. Level of study and financial literacy levels

The outcomes from Table 3 reveal that postgraduate students exhibit higher levels of financial literacy compared to their undergraduate counterparts. In terms of overall financial literacy, postgraduate students, on average, accurately answered approximately eight out of the twenty questions, while undergraduate students answered six questions correctly. Regarding basic financial literacy, postgraduate students, on average, provided correct answers to approximately three out of the five questions, compared to undergraduate students who answered two questions accurately, although this difference was not statistically significant. Additionally, in advanced financial literacy questions, male postgraduate students, on average, accurately answered approximately four out of the eleven questions, while female postgraduate students answered three questions correctly. The observed differences in financial literacy levels between male and female postgraduate students were all found to be statistically significant at the 5% level of significance.

These findings suggest a positive and significant relationship between the level of education and financial literacy, indicating that individuals with higher educational attainment tend to be more financially literate. This aligns with previous research by Ergün (2017), who found that PhD students were more financially literate

Table 2: Significant difference in financial literacy by subject area

Subject area	Mean	Std. deviation	P-value
Overall financial literacy			0.414
Business course	7.18	3.34	
Non-business course	6.88	3.12	
Basic financial literacy			0.001
Business course	3.27	1.40	
Non-business course	2.75	1.34	
Advanced financial literacy			0.411
Non-business course	3.91	2.43	
Business course	4.13	2.40	

Table 3: Significant difference in financial literacy by level of study

Level of study	Mean	Std. deviation	P-value
Overall financial literacy			0.000
Undergraduate	6.67	3.26	
Postgraduate	8.09	3.04	
Basic financial literacy			0.001
Undergraduate	2.90	1.40	
Postgraduate	3.49	1.35	
Advanced financial literacy			0.005
Undergraduate	3.77	2.39	
Postgraduate	4.60	2.42	

than other students across eight European countries. Similarly, studies by Chen and Volpe (2002), Danes and Hira (1987) have reported that students in higher educational classes demonstrate greater financial literacy compared to their counterparts in lower classes.

4.3.3. Age and financial literacy levels

The outcomes from Table 4 reveal that older students (31 years and above) exhibit higher levels of financial literacy compared to younger students (16–30 years). In terms of overall financial literacy, older students were able to accurately answer nine to eleven questions out of the twenty, while younger students answered five to seven questions correctly. Regarding basic financial literacy, older students accurately answered three to five questions out of the five, compared to younger students who answered two to three questions correctly. Additionally, in advanced literacy questions, older students accurately answered five to six questions out of the eleven, while younger students answered three to four questions correctly. All observed differences in financial literacy levels between older and younger students were statistically significant at the 5% level of significance.

These findings suggest a positive and significant relationship between financial literacy and age, indicating that older individuals tend to be more financially literate than their younger counterparts. This aligns with previous research by Chen and Volpe (2002), which found students under 30 years to be less financially literate. Similarly, studies by Ansong and Gyensare (2012), Lusardi and Tufano (2009), Van Rooij et al. (2011), and Mouna and Anis (2017) have reported that age influences the level of financial literacy, with literacy generally increasing as individuals grow older. However, it's worth noting that these findings contrast with Wagland and Taylor (2009), who found age not to be a significant predictor of financial literacy among Australian undergraduate business students.

Table 4: Significant difference in financial literacy by age

Age	Mean	Std. deviation	P value
Overall financial literacy			0.000
Below 18 years	5.94	3.33	
18–25 years	7.29	3.19	
26–30 years	7.69	2.69	
31–35 years	9.78	2.91	
36–40 years	9.00	2.74	
41 years and above	11.00	2.83	
Basic financial literacy			0.000
Below 18 years	2.63	1.43	
18–25 years	3.08	1.35	
26–30 years	3.63	1.28	
31–35 years	3.67	1.66	
36–40 years	3.20	0.84	
41 years and above	5.00	0.00	
Advanced financial literacy			0.001
Below 18 years	3.31	2.44	
18–25 years	4.20	2.43	
26–30 years	4.06	2.05	
31–35 years	6.11	1.69	
36–40 years	5.80	2.17	
41 years and above	6.00	2.83	

4.3.4. Working experience and financial literacy levels

The outcomes from Table 5 reveal that students with more working experience demonstrate higher levels of financial literacy compared to those with less working experience. In terms of overall financial literacy, students with more working experience (2 years and more) were able to accurately answer approximately seven to eight questions out of twenty, while those with less working experience (<2 years) answered five to seven questions. Concerning basic financial literacy, students with more working experience were able to accurately answer approximately three to four questions out of nine, compared to those with less working experience who answered two to three questions. Similarly, on advanced literacy questions, students with more working experience were able to accurately answer approximately four to five questions out of eleven, while those with less working experience answered three to four questions. The observed differences in financial literacy levels between these two groups were all found to be statistically significant at the 5% level of significance.

These findings indicate a positive and significant relationship between financial literacy and working experience, suggesting that individuals with more working experience tend to be more financially literate than those with less working experience. This aligns with previous research by Chen and Volpe (2002) and Ansong and Gyensare (2012), which found that students with more work experience have higher levels of financial literacy. However, Wagland and Taylor (2009) reported that working experience is not a significant predictor of financial literacy among Australian undergraduate business students.

4.4. Factors that Influence Stock Market Participation

The results from the table 6 shows that there is no significant difference in stock market participation between students with

Table 5: Significant difference in financial literacy by working experience

Working experience	Mean	Std. deviation	P-value
Overall financial literacy			0.000
None	5.93	3.17	
<2 years	7.37	3.14	
2 to<4 years	7.89	3.16	
4 to<6 years	6.50	2.71	
6 years or more	8.57	3.92	
Basic financial literacy			0.033
None	2.74	1.44	
<2 years	3.10	1.37	
2 to<4 years	3.36	1.28	
4 to<6 years	3.00	1.91	
6 years or more	3.57	1.22	
Advanced financial literacy			0.001
None	3.20	2.29	
<2 years	4.27	2.38	
2 to<4 years	4.52	2.36	
4 to<6 years	3.50	2.07	
6 years or more	5.00	2.99	

Table 6: Significant difference in stock market participation by subject area

Subject area	Mean	Std. deviation	P-value
Stock market participation			0.414
Business	8.45	2.14	
Non-Business	7.12	2.02	

business courses as compared to students studying non-business courses. The results however show a higher mean score for business students as compared to non-business students.

The results from table 7 also revealed that there is significant difference in stock market participation between undergraduate and post-graduate students in Ghana. The result could be interpreted to mean that post-graduate students are more matured and have relevant experience and understanding of financial matters and as such likely to undertake investment involving stocks ad compared to ungraduated students.

The results frim Table 8 shows that there is significant difference between age and stock market participation among university students in Ghana. The results show that older people are more likely to engage in stock market activity as compared to younger people. The result is consistent with the expectations of the study as well as previous studies on the subject matter.

The study also find that the level of experience significantly influences stock market participation among students in Ghana. The results in table 9 show significant difference between years of experience and stock market participation. The results showed that the more experienced workers are more likely to participate in stock market activities as compared to less experienced people.

4.5. Relationship between Financial Literacy and Stock Market Participation in Ghana

The OLS regression was used to determine the relationship between financial literacy and stock market participation in Ghana. The study further examined how some demographic factors influence stock market participation in Ghana. The results of the regression analysis in presented in Table 10 below;

The adjusted R-squared of 0.4895 shows that the independent variables (including FLS, AGE, GEN, CS, INC) can explain only 68% of the variations in the dependent variable (SMP). The probability of the F-Statistics is significant suggesting that the model is well fit for the study.

The regression analysis presented in Table 10 indicates a positive and significant association between the level of financial literacy and stock market participation. This association is found to be statistically significant at the 1% level, implying that financial literacy is a robust determinant of stock market participation in Ghana. The results suggest that individuals with higher levels of financial literacy are more likely to engage in stock market activities in the country. This aligns with the conclusions drawn in similar studies, such as Yoong (2011), Chen et al. (2023), Zou and Deng (2019) and a host of other studies which reported a positive and significant relationship between financial literacy and stock market participation. The result is also consistent with the second hypothesis of the study as well as agree with the expectations of the theory of planned behaviour. The result is however contrary to the findings of Akakpo et al. (2022) and Banyen and Nkuah (2015) who found no significant association between financial literacy and stock market participation.

Table 7: Significant difference in stock market participation by level of study

Subject area	Mean	Std. deviation	P-value
Stock market participation			0.001
Undergraduate	4.56	1.45	
Post-graduate	7.68	2.05	

Table 8: Significant difference in stock market participation by age

Age	Mean	Std. deviation	P-value
Stock market participation			0.000
Below 18 years	1.45	1.23	
18–25 years	4.45	2.15	
26–30 years	7.45	2.55	
31–35 years	9.52	2.90	
36–40 years	9.63	2.52	
41 years and above	11.12	2.35	

Table 9: Significant difference in stock market participation by working experience

Working experience	Mean	Std. deviation	P-value
Stock market participation			0.000
None	4.04	2.17	
<2 years	7.35	3.14	
2 to <4 years	7.85	3.16	
4 to <6 years	8.50	1.71	
6 years or more	8.65	2.92	

Table 10: Regression analysis

Variable	Coefficient	Std errors	T-values
FLS	0.352***	0.026	13.538
AGE	0.035***	0.002	17.500
GEN	0.199***	0.048	4.146
CS	0.066***	0.023	2.870
INC	0.256***	0.016	16.000
CONST	−2.643***	0.236	−11.199
R-square	0.6895		
Probability	0.000		

***Means significant at 1% significance level.

Beyond financial literacy, the study identifies several other variables that significantly influence stock market participation in Ghana. The demographic factors of age, gender, course specialization, and income level of respondents were all determined to be significant at the 1% significance level. The findings reveal that older individuals are more likely to participate in stock market activities in Ghana compared to their younger counterparts. Moreover, males exhibit a higher propensity for stock market participation than females. The study also highlights the influence of income levels on students' decisions to participate in stock market activities in Ghana. The results align with the expectations of the theory of planned behavior. First of all, financial literacy improves people's perceptions about investing in the stock market. A greater degree of financial literacy increases the likelihood that people will adopt favorable opinions regarding the advantages and possible profits of stock market investing. Comprehending financial ideas, hazards, and possible gains enhances one's assessment of investing in the stock market. Second, people's intentions are influenced by subjective norms.

Social influences and opinions from peers, family, and friends on trading in the stock market might be important in Ghana. People are more likely to develop favorable intentions toward trading in the stock market if they live in a social environment that promotes and appreciates financial knowledge and investment. Perceived behavioral control is the final important component. By providing people with the information and abilities required to successfully negotiate the intricacies of the stock market, financial literacy boosts people's self-assurance and sense of control over their capacity to partake in these kinds of financial endeavors. People are more inclined to form good intentions and engage in the stock market when they feel more in control of their financial decisions. Overall, the results emphasize that stock market participation in Ghana is shaped not only by financial literacy but also by demographic factors such as age, gender, income, and area of study or specialization. These outcomes align with similar research conducted in developed countries, indicating a degree of similarity in the determinants of stock market participation between Ghana and developed economies like those in Europe.

5. CONCLUSION

Recognizing the pivotal role of financial literacy in both individual and national contexts, this study delves into an examination of the financial literacy levels and influencing factors among tertiary students in Ghana, a Sub-Saharan African nation. Despite the critical importance of financial literacy, previous research has consistently revealed suboptimal levels among students, particularly in developing countries. The current study contributes to this discourse by shedding light on the financial literacy landscape among Ghanaian tertiary students, emphasizing its implications for stock market participation. Notably, the findings unveil a prevalent lower level of financial literacy among the sampled students.

Gender, age, academic level, work experience, and academic specialization emerge as influential factors affecting financial literacy within the student population. Males, older students, postgraduates, individuals with more work experience, and those pursuing business-related courses exhibit comparatively higher levels of financial literacy. These insights provide a nuanced understanding of the demographic and educational characteristics associated with varying degrees of financial literacy among students in Ghana.

Moreover, the study identifies significant determinants of stock market participation in the Ghanaian context. Financial literacy, age, gender, academic discipline, and income level are established as crucial factors influencing students' decisions to engage in stock market activities. These findings underscore the interconnectedness of financial literacy and broader demographic aspects in shaping financial behaviours, particularly participation in the stock market. Such insights carry important implications for policymakers aiming to enhance the financial literacy levels of students, fostering informed decision-making and financial well-being in the dynamic economic landscape of Ghana.

6. RECOMMENDATIONS

The study puts forth several recommendations aimed at improving the financial literacy levels among tertiary students in Ghana. It suggests the integration of financial literacy modules into the academic curriculum for both business and non-business students, thereby ensuring a comprehensive and standardized approach to financial education. Additionally, the study proposes the allocation of a dedicated week for financial literacy awareness across the entire university, involving seminars and programs to actively engage students. University administrators are encouraged to enlist the expertise of financial counsellors who can provide personalized guidance on effective financial management practices.

Furthermore, the study extends its recommendations to national stakeholders, advocating for the involvement of the Ministry of Finance (MoF) and Ministry of Education (MoE) in spearheading awareness campaigns and educational initiatives on financial literacy. This collaborative effort would contribute to a broader dissemination of financial knowledge, reaching beyond the university setting and benefitting the wider population.

Acknowledging the limitations of the study, particularly its focus on a single public university in Ghana, the report suggests that future research endeavours expand the sample size to include diverse universities, offering a more comprehensive understanding of financial literacy levels among tertiary students in the country. Moreover, the study highlights the need for future investigations to explore the multifaceted impact of financial literacy on various financial behaviours, such as savings, investment patterns, debt management, and retirement planning. This broader scope would provide valuable insights into the holistic influence of financial literacy on individuals' financial decision-making processes.

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