

Exploring the Relationship Between Demographic Profiles and Investment Literacy among Retail Investors

Jatin Passi* and Apar Singh**

* *School of Management Studies, Punjabi University, Patiala*

** *School of Management Studies, Punjabi University, Patiala*

Abstract

The purpose of this study was to survey retail investors to determine the relationship between investment literacy and demographics. For this purpose, age, gender, education, annual household income, occupation, marital status, number of dependents in the household, and area of residential are considered demographic factors, and their relationship with investment literacy is studied. The sample for the study consisted of 434 retail investors from the northern region of India. Data was collected using a questionnaire consisting of 16 questions. The first category comprised questions such as gender, age, educational qualification, area of living, annual household income, occupation, marital status, and number of dependents in the household. The second category comprised 8 multiple-choice questions that tested retail investors' knowledge of basic investment calculations, their understanding of financial markets and products, and their knowledge of risk and diversification. One-way ANOVA was used to find out the relationship between demographic factors and investment literacy. The findings showed that age, education, marital status, gender, and number of dependents did not significantly influence the level of investment literacy among retail investors. In contrast, the area of living, occupation, and annual household income showed significant effects. Retail investors from Delhi/NCR and Chandigarh, salaried individuals, and those with higher household income reported a higher level of investment literacy compared to their counterparts from rural areas, those self-employed or not regularly employed, and those with lower household income.

Key Words

Investment Literacy, Retail Investors, Demographics, One-Way ANOVA.

INTRODUCTION

More people are now actively involved in the financial markets as a result of the introduction of new and more advanced financial products into the market and the expansion of distribution channels. Financial assets may be anything from high-risk equity investments to low-risk fixed income instruments, and each one requires some fundamental financial understanding to enable you to choose these goods with wisdom (Mahdzan *et al.*, 2020).

Investment literacy is a life skill that helps people make wise financial investment decisions, prevent financial loss through uninformed decisions, and enables individuals select the right financial product. Making basic or more complex life decisions, including retirement planning, saving for unforeseen events, and building up money for major life events such as home ownership, and funding further education, requires this life skill (Aboluwodi & Nomlala, 2020). The commitment of funds or capital in investment securities or financial assets with the aim of generating profitable returns in the form of interest yields, capital appreciation, or other forms of income generated by such investment securities or financial assets is commonly referred to as investment decision-making, according to Shaari *et al.* (2013).

The significance of financial literacy and its influence people's investment decisions has been the subject of recently work. A prevalent problem among many investors worldwide is a lack of financial literacy (Lusardi & Mitchell, 2011a). Thus, a lot of academics and decision-makers have focused more on analyzing the role of financial and investment literacy in financial decision-making, such as investing in mutual funds (Müller & Weber, 2010), retirement planning (Fornero & Monticone, 2011), usage of credit cards (Norvilitis, Merwin, Osberg, Roehling, Young & Kamas, 2006), financing mortgages (Gerardi, Goette & Meier, 2010), and stock participation (Van Rooij, Lusardi, & Alessie, 2011).

Nonetheless, there is mixed information about how crucial financial literacy is when making these financial decisions. While some research reported a minimal correlation between financial decisions and financial literacy, others depicted a considerable positive correlation. Furthermore, there are differences among the financial literacy metrics that have been employed in the research. The quantity and kind of questions utilized differ, even through most research uses quiz-style questions to assess financial knowledge. While some use basic plus more complex questions that concentrate on stock and bond investments (e.g., Van Rooij *et al.*, 2011; Hassan Al-Tamimi & Anood Bin Kalli, 2009), others

use basic literacy questions that test respondents' knowledge of inflation and compound interest (e.g., Lusardi & Mitchell, 2007a, 2007b, 2011; Hastings & Mitchell, 2011).

Numerous studies have looked at the socioeconomic and demographic aspects that influence financial literacy levels (Kadoya & Khan, 2020; Garg & Singh, 2018; Cucinelli *et al.*, 2019; Bhushan & Medury, 2013). (Bhushan & Medury, 2013; Garg & Singh, 2018; Bawre & Kar, 2019; Klapper & Lusardi, 2020; Kadoya & Khan, 2020) Previous research has demonstrated that financial literacy is influenced by gender. The level of financial literacy in women is found to be less than that of males, according to more recent research by Jeyaram & Mustapha (2015), Swiecka *et al.* (2020), Klapper and Lusardi (2020), Kadoya & Khan (2020), and Rink *et al.* (2021). Furthermore, women's understanding is less impacted by financial literacy levels than men's. Both economically developed and underdeveloped cultures exhibit this gender disparity. (Dewi Vera, 2022). Both economically developed and underdeveloped cultures exhibit this gender disparity. According to a 2015 S&P Global Finlit Survey, 30% of women and 35% of men globally possess financial literacy. According to Klapper *et al.* (2015), women of all ages, nationalities, income levels, and educational attainment are less financially literate than men. Ibrahim *et al.* (2016) contend, however, that financial literacy is unaffected by gender. Because both genders exhibit comparable comprehension of the financial awareness notion, they demonstrate that gender does not differentiate financial awareness. Additionally, Kim and Mountain (2019) claim that there is no difference in the financial knowledge of male and females.

The age difference between economically developed and developing populations affects financial literacy levels (Klapper *et al.*, 2015). Financial literacy is low among both young and old (Bajo *et al.*, 2015; Bawre & Kar, 2019). Nonetheless, Garg and Singh (2018) discovered that youth lack financial literacy throughout the world. On the other hand, Kim and Mountain (2019) and Bhushan and Medury (2013) demonstrate that age has no relation to financial literacy.

The connection between income and financial literacy has also been the subject of earlier research. Financial literacy is influenced by socioeconomic class, as demonstrated by Bajo *et al.* (2015), Garg and Singh (2018), Bawre and Kar (2019), Klapper *et al.* (2015), and Bhushan and Medury (2013). However, Kim and Mountain (2019) discovered that a person's income is unaffected by their level of financial literacy.

This study surveyed retail investors to determine the relationship between investment literacy and demographics. Within this context, the purposes of this study were to: (1) determine the level of investment literacy of the retail investors, (2) explore the relationship between investment literacy and retail investors' demographic characteristics and (3) provide empirical evidence that will assist and facilitate the development of strategies to improve investment literacy among retail investors. This article is structured in the following order: The second section briefly explains relevant pieces of literature on investment literacy. The third section provides insights into the data structure and research methodology employed in the analysis. The fourth section discusses the findings and results of the analysis. The final section contains concluding remarks based on the study findings.

REVIEW OF LITERATURE

Understanding the risk-return dynamics of financial investment products, financial markets, and the enabling financial intermediaries that guarantee the smooth operation of the financial system is known as investment literacy. Numerous international studies have demonstrated the importance of investing literacy in influencing future investment choices (Volpe *et al.*, 1996; Volpe *et al.*, 2002; Lusardi and Mitchell, 2011; Van Rooij *et al.*, 2011; Ali, 2015).

According to Lusardi and Mitchell (2011), Americans' lack of investment literacy causes them to make unprofitable investment choices. Van Rooij *et al.* (2011) performed an online poll in the Netherlands that further supported this finding. Financial literacy and stock market investments were shown to be strongly related in the study, which involved 1508 household members. Fewer than 30% of respondents, for instance, knew the concept of how bonds operate, and fewer than 50% were aware that mutual funds are safer than corporate shares, according to the poll. Similar findings were made by Hassan Al-Tamimi & Anood Bin Kalli (2009) and Ali (2015), who discovered that investors' investing literacy did influence their choices. According to Hassan Al-Tamimi and Anood Bin Kalli (2009), 290 investors in the United Arab Emirates (UAE) participated in a survey aimed at determining the influence of sociodemographic factors and financial literacy on investment decisions. They discovered that religion has the greatest influence on investment decisions, while rumors have the least.

Similarly, Ali (2015) evaluated the behavioural attitudes and financial literacy of 214 Tunisian stock market participants. According to the poll, their financial literacy was significantly influenced by their age and income. Furthermore, it was shown that education had a significant impact on investment

literacy since investors with higher levels of education demonstrated a good level of investment literacy and made profitable investment choices. Despite being carried out by separate researchers in the United Arab Emirates and Tunisia, these investigations supported previous findings by Volpe *et al.* (2002), who examined investing literacy among US internet investors. Relevant studies have found poor levels of literacy among students and young adults in financial investment decisions (Volpe *et al.*, 1996; Lusardi *et al.*, 2010; Lam, 2015).

Using survey data from an Indian financial advising program, Agarwal *et al.* (2015) discovered that respondents have varying levels of financial literacy across socioeconomic and demographic factors and have a rudimentary understanding of inflation, interest rates, and risk diversification. They also demonstrate how participation in financial activities, such as risk tolerance, investment objectives, and investment preferences, is correlated with a basic level of financial literacy. Although there is a wealth of information about the connection between investing behavior and financial literacy, the results have been conflicting. An increase in financial literacy hardly accounts for 0.1% of the variation in financial behavior, according to a meta-analysis of 168 publications on the subject. The impact of literacy is less pronounced for those with lower incomes.

Age, gender, and socioeconomic background are examples of sociodemographic traits that are important in the context of convergence theory. This hypothesis suggests that these sociodemographic variables might influence how members of society grow, change, and unite in their beliefs, characteristics, and actions (Amari *et al.*, 2020). The hypothesis acknowledges that individuals from comparable sociodemographic groups could share opportunities, experiences, and problems, which could lead to comparable attitudes and actions. According to the convergence theory and financial literacy, individuals with comparable sociodemographic characteristics may also have comparable financial literacy levels (Zulfiqar & Bilal, 2016).

Population characteristics, including sex, marital status, living arrangements and household composition, language, ethnic background, health and disability, education, and training, employment status and occupation, income and household consumption, population densities, and urban and rural residence, are referred to as demographic factors by Yusuf *et al.* (2014). Numerous socioeconomic factors are also mentioned by Chaudhry *et al.* (2009), including household property, assets, income, employment, housing, health, and education. In the mean time, age, sex, and household sizes and structures are among the demographic features.

Several prior studies used socioeconomic and demographic parameters to examine the relationship between two or more variables, even though they are commonly used to characterize the profiles of the respondents. According to Nidar and Bestari (2012), two primary elements influence financial literacy: internal and external factors. Conditions of the economic environment, such as interest rates and inflation, are referred to as external factors. Conversely, demographic characteristic including age, sex, race, education, and socioeconomic variables (income and employment), are referred to as internal factors. Much research had looked at how demographic characteristics affect financial literacy (Chen & Volpe, 1998, 2002; Klapper & Lusardi, 2020; Lusardi & Mitchell, 2008).

RESEARCH OBJECTIVE

To find out the relationship between demographics and investment literacy.

RESEARCH METHODOLOGY

Respondents and Research Design

434 retail investors of Delhi, Chandigarh, Haryana, Punjab have been considered as the sample of the study because it fairly represents the more 50% of the north region of India. This study uses the quantitative research design, which utilises a questionnaire to collect information related to their investment literacy and socio-demographic information.

Survey Questionnaire

This study used 16 questions as a finalised questionnaire divided into two categories of sociodemographic questions (8) and investment literacy questions (8). The first category comprised questions such as gender, age, educational qualification, area of living, annual household income, occupation, marital status, and number of dependents in the household.

The second category of the questionnaire tested general investment literacy via a set of multiple choices questions. This comprised 8 multiple-choice questions that tested retail investors' knowledge of basic investment calculations, their understanding of financial markets and products, and their knowledge of risk and diversification. The questions in this section were adapted from items used in an existing published study (Salem R., 2019).

RESULTS

Descriptive and Frequency Distribution

Table 1

Descriptive and Frequency Distribution

Variable	Category	Frequency	Percent (%)
Age	21–34 Years	373	85.9
	35–44 Years	47	10.8
	45–60 Years	11	2.5
	Above 60 Years	3	0.7
Gender	Male	265	61.1
	Female	169	38.9
Education	Senior Secondary or Lower	41	9.4
	Graduation	187	43.1
	Post-graduation	200	46.1
	Finance Professional	6	1.4
Area of Living	Delhi (NCR)/Chandigarh	221	50.9
	Urban Punjab/Haryana	124	28.6
	Rural Punjab/Haryana	89	20.5
Occupation	Salaried	194	44.7
	Self-employed/Professional	97	22.4
	Not Regularly Employed	143	32.9
Annual Household Income	Less than 7 Lacs	181	41.7
	Between 7–15 Lacs	219	50.5
	More than 15 Lacs	34	7.8
Marital Status	Single	281	64.7
	Married	153	35.3
No. of Dependents	0–2	216	49.8
	3–5	213	49.1
	6 or More	5	1.2

According to the data, there were 434 responders in total, 373 (85.9%) of whom were between the ages of 21 and 34. Following that, there were 47 responders (10.8%) in the 35–44 age group, 11 (2.5%) in the 45–60 age range,

and 3 (0.7%) in the 60+ age range. Of the 434 responders, 265 (61.1%) are men, and the remaining 169 (38.9%) are women. 187 (43.1%) respondents have finished their graduation, while 200 (46.1%) respondents are still pursuing their post-graduate degree. Just 41 (9.4%) of the respondents fall within the group of those who just passed their lower or senior secondary exams. Six respondents, or 1.4% of the sample, have earned a degree in finance. 221 (50.9%) of the responders are from Chandigarh or Delhi (NCR). Then came 124 (28.6%) responders who were from Punjab and Haryana's urban areas. Out of 434 respondents, 89 (20.5%) come from rural areas in Punjab and Haryana. Salary-earning respondents make up over half of the sample (194 (44.7%)), followed by those who do not have a regular job (143 (32.9%)). However, 97 (22.4%) of the respondents say they are professionals or self-employed. Table No. 6 displays the respondents' classification by yearly family income. 219 (50.5%) of the respondents fall into the group of people whose family income falls between 7 and 15 lacs per year. Followed by 181 (41.7%) with less than 7 Lacs. Only 34 (7.8%) respondents reported household income exceeding 15 Lacs. This suggests that the sample is predominantly concentrated in the middle-income segment, with comparatively fewer respondents from the higher-income group. Of those surveyed, 281 (64.7%) said they were single, while 153 (35.3%) said they were married. This distribution shows that married participants make up a lesser percentage of the sample, which is dominated by single people. A comparable percentage of respondents, 213 (49.1%), stated having three to five dependents, but almost half, 216 (49.8%), reported having zero to two. Of the respondents, just five (1.2%) said they had six or more dependents.

One-Way ANOVA**Table 2****One-way ANOVA**

		Mean	N	Std. Deviation		Sum of Squares	df	Mean Square	F	Sig.
IL * Age	21-34	0.0062	373	0.81518	Between Groups	0.641	3	0.214	0.327	0.806
	35-44	-0.0061	47	0.67283	Within Groups	280.515	430	0.652		
	45-60	-0.1670	11	1.02017	Total	281.155	433			
	Above 60	0.3270	3	1.02054						
	Total	0.0027	434	0.80580						
IL * Educ- ation	Senior Secondary or lower	-0.0736	41	0.82095	Between Group	2.156	3	0.719	1.108	0.346
	Graduation	-0.0576	187	0.77548	Within Groups	279.000	430	0.649		
	Post-gra- duation	0.0668	200	0.83123	Total	281.155	433			
	Finance Professi- onal	0.2663	6	0.73323						
	Total	0.0027	434	0.80580						
IL * Area of Living	Delhi (NCR)/ Chandigarh	0.2545	221	0.84596	Between Groups	29.372	2	14.686	25.139	0.000
	Urban Punjab/ Haryana	-0.2058	124	0.66181	Within Groups	251.784	431	0.584		
	Rural Punjab/ Haryana	-0.3320	89	0.67813	Total	281.155	433			
	Total	0.0027	434	0.80580						
	Salaried	0.2338	194	0.85001	Between Groups	19.802	2	9.901	16.328	0.000
IL * Occu- pation	Self- employed/	-0.2650	97	0.71957	Within Groups	261.353	431	0.606		
	Professi- onal Not	-0.1292	143	0.71306	Total	281.155	433			

	Regularly Employed									
	Total	0.0027	434	0.80580						
IL * Annual House- hold Income	Less than 7 Lacs	-0.1111	181	0.76429	Between Groups	4.737	2	2.368	3.693	0.026
	Between 7-15 Lacs	0.0631	219	0.81147	Within Groups	276.419	431	0.641		
	More than 15 Lacs	0.2193	34	0.91659	Total	281.155	433			
	Total	0.0027	434	0.80580						
IL * No. of Depen- dents in your House- hold?	0-2	-0.0038	216	0.78334	Between Groups	2.164	2	1.082	1.672	0.189
	3-5	-0.0061	213	0.82690	Within Groups	278.991	431	0.647		
	6 or more	0.6568	5	0.72568	Total	281.155	433			
	Total	0.0027	434	0.80580						

RESULTS

To examine the impact of demographic characteristics on investment literacy (IL), a series of one-way analyses of variance (ANOVA) as performed. IL was treated as the dependent variable, while age, education, area of living, occupation, annual household income, and number of dependents were used as grouping variables.

Age

The results showed that age did not exert a significant influence on investment literacy, $F = 0.327$, $p = .806$. This finding suggests that, across different life stages, ranging from young adults (21–34 years) to older respondents (above 60 years), there was no meaningful variation in financial literacy levels. The mean scores across the four age groups were close to zero, reflecting very small differences in IL. For example, respondents in the age group of 45–60 years reported slightly lower mean scores ($M = -0.17$), whereas respondents above 60 years reported higher scores ($M = 0.33$), but these variations were statistically insignificant. This indicates that age, by itself, does not necessarily guarantee greater financial knowledge, which is in line with prior findings that financial literacy is not automatically accumulated with age, but instead depends on exposure and financial experiences (Lusardi & Mitchell, 2014).

Education

A similar trend was observed for education, which was not found to be a significant determinant of IL, $F = 1.108$, $p = .346$. While finance professionals ($M = 0.27$) reported higher mean scores than post-graduates ($M = 0.07$), graduates ($M = -0.06$), and those with senior secondary or lower qualifications ($M = -0.07$), these differences were not large enough to be statistically meaningful. This suggests that higher formal education alone may not directly translate into higher financial literacy, unless the education is specifically finance-related. This pattern is supported by previous studies, which report that individuals often lack adequate financial knowledge despite higher academic qualifications, unless they have received targeted financial training (Agarwalla *et al.*, 2015).

Area of Living

In contrast, the place of residence was found to have a highly significant effect on IL, $F = 25.139$, $p < .001$. Respondents residing in Delhi/NCR and Chandigarh reported the highest mean IL score ($M = 0.25$), followed by those in urban Punjab and Haryana ($M = -0.21$), while individuals in rural Punjab and Haryana had the lowest scores ($M = -0.33$). These results indicate a sharp urban–rural divide in investment literacy, with individuals in metropolitan and semi-metropolitan areas demonstrating stronger knowledge and awareness of financial matters. This finding is consistent with the broader literature, which highlights that urban residents have greater access to financial institutions, educational campaigns, and technology-driven financial tools compared to rural populations, who may face limited exposure and structural barriers to financial knowledge (Lusardi & Mitchell, 2014; Agarwalla *et al.*, 2015).

Occupation

Occupation was also significantly associated with investment literacy, $F = 16.328$, $p < .001$. Salaried individuals reported the highest IL ($M = 0.23$), whereas self-employed/professional respondents scored substantially lower ($M = -0.27$), and those not regularly employed also scored below average ($M = -0.13$). These findings suggest that salaried employment, which typically provides regular income flows, access to employee benefits, and sometimes mandatory financial instruments (e.g., provident funds, pension schemes), may foster higher financial knowledge. Conversely, individuals who are self-employed or not regularly employed may lack similar institutional exposure, resulting in lower IL. Prior research also indicates that stability of employment and structured income systems positively affect the acquisition of financial knowledge (Al-Tamimi & Kalli, 2009).

Annual Household Income

The results further demonstrated a significant effect of annual household

income on IL, $F = 3.693$, $p = .026$. Respondents with annual income above ₹ 15 lakhs reported the highest mean scores ($M = 0.22$), followed by those earning between ₹ 7–15 lakhs ($M = 0.06$), while individuals with less than ₹ 7 lakhs showed the lowest mean IL ($M = -0.11$). This suggests that individuals in higher income brackets are more likely to possess stronger financial knowledge, possibly due to their greater interaction with diverse financial products, services, and investment opportunities. This pattern is consistent with the argument that higher-income households face both greater incentives and greater necessity to understand financial instruments to effectively manage wealth (Lusardi & Tufano, 2015).

Number of Dependents

Finally, no significant effect was found for the number of dependents, $F = 1.672$, $p = .189$. Although households with six or more dependents had a higher mean IL ($M = 0.66$), this subgroup was very small ($n = 5$) and, therefore, the result should be interpreted with caution. The non-significant effect overall suggests that family size, in itself, does not directly determine financial literacy levels.

Independent t-Test

Table 3

Independent t-Test

						Levene's Test for Equality of Variance				
	Gen- der	Mean	N	Std. Devi- ation		F	Sig	t	df	Sig. (2- tailed)
IL * Gender	Male	0.0751	265	0.79216	Equal variances assumed	9.994	0.002	-1.602	432	0.110
	Female	-0.1108	169	0.81624	Equal variances not assumed			-1.607	423.665	0.109
	Total	0.0027	434	0.80580						
IL * Marital Status	Single	-0.0228	281	0.82967	Equal variances assumed	2.764	0.097	0.846	432	0.398
	Married	0.0496	153	0.76044	Equal variances not assumed			0.844	415.169	0.399
	Total	0.0027	434	0.80580						

RESULTS OF INDEPENDENT SAMPLES T-TESTS

Independent samples t-tests were conducted to examine differences in investment literacy (IL) based on gender and marital status.

Gender

The results of Levene's test for equality of variances were significant, $F = 9.994$, $p = .002$, indicating that the assumption of homogeneity of variance was violated. Therefore, the "equal variances not assumed" row was used for interpretation. The analysis revealed that there was no statistically significant difference in IL between male and female respondents, $t(423.67) = -1.607$, $p = .109$. The mean difference in IL scores ($M_{diff} = -0.075$) was small and not statistically meaningful. This suggests that gender did not significantly influence financial knowledge in the present sample.

Marital Status

For marital status, Levene's test was not significant, $F = 2.764$, $p = .097$, suggesting that the assumption of equal variances was met. The independent samples t-test indicated no significant difference in IL between married and unmarried respondents, $t(432) = 0.846$, $p = .398$. The mean difference was small ($M_{diff} = 0.039$), confirming that marital status did not contribute to variations in financial literacy.

CONCLUSION

This study emphasized the influence of demographic and socioeconomic factors, such as sex, age, specialization, and consumption spending, on financial literacy. Four major points can be derived from this study

The ANOVA results indicated that age, education, and number of dependents did not significantly influence IL. In contrast, the area of living, occupation, and annual household income showed significant effects. Respondents from Delhi/NCR and Chandigarh, salaried individuals, and those with higher household income reported higher IL compared to their counterparts from rural areas, those self-employed or not regularly employed, and those with lower household income.

The independent samples t-tests further revealed that neither gender nor marital status had a statistically significant effect on IL. Male and female respondents, as well as married and unmarried participants, scored similarly in terms of financial literacy.

Overall, the findings suggest that socioeconomic and contextual factors

(residence, occupation, and income) play a stronger role in shaping investment literacy than basic demographic variables (age, gender, marital status, education, or family size). These results align with prior evidence highlighting the importance of economic opportunities and environmental factors in determining financial knowledge.

References

- Agarwal, S.; Amromin, D.; Ben-David, I.; Chomsisengphet, S.; and Evanoff, D. D. (2015), Financial Literacy and Financial Planning : Evidence from India, *Journal of Housing Economics*, 27, 4–21.
- Agarwal, S.; Driscoll, J. C.; Gabaix, X.; and Laibson, D. (2009), The Age of Reason : Financial Decisions Over the Life Cycle and Implications for Regulation, *Brookings Papers on Economic Activity*, 2009(2), 51–117.
- Ali, A.; Rahman, M. S. A.; and Bakar, A. (2015), Financial Satisfaction and the Influence of Financial Literacy in Malaysia, *Social Indicators Research*, 120(1), 137–156.
- Ali, S. M. (2015), *Financial Literacy and Stockholding Among the Tunisian Households*, Alwi, S.; Hashim, I. A.; and Ali, M. S. (2015), Factors Affecting Savings Habits within Millennials in Malaysia : Case Study on Students of Taylor’s University, In *Proceedings of the Fourth Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences* (pp. 1–10).
- Ansong, A.; and Gyensare, M. A. (2012), Determinants of University Working-Students’ Financial Literacy at the University of Cape Coast, Ghana, *International Journal of Business and Management*, 7(9), 126–133.
- Botha, M. (2013), *A Comparative Analysis of the Financial Literacy of Final Year Diploma Students in Different Fields of Study at the University of Johannesburg*, University of Johannesburg.
- Calvet, L. E.; Campbell, J. Y.; and Sodini, P. (2007), Down or Out : Assessing the Welfare Costs of Household Investment Mistakes, *Journal of Political Economy*, 115(5), 707–747.
- Chen, H.; and Volpe, R. P. (1998), An Analysis of Personal Financial Literacy Among College Students, *Financial Services Review*, 7(2), 107–128.
- Chmelíková, B. (2016), Financial Decision-Making Among Finance Students : An Empirical Study from the Czech Republic, *Self*, 498, 084.
- Coville, T. G. (2013), Preparing Education Degree Candidates with Financial Literacy Concepts, *ASBBS Proceedings*, 20, 516–523.
- De Bassa Scheresberg, C. (2013), Financial Literacy and Financial Behavior among Young Adults : Evidence and Implications, *Numeracy*, 6(2), 1–21.

- Fatoki, O. (2014), The Financial Literacy of Non-business University Students in South Africa, *International Journal of Education and Science*, 7(2), 261–267.
- Glaser, M.; and Walther, T. (2014), Run, Walk, or Buy? Financial Literacy, Dual-Process Theory, and Investment Behavior, *Financial Literacy, Dual-Process Theory, and Investment Behavior* (April 16, 2014).
- Glaser, T.; and Walther, E. (2013), Two in One Conditioning? The Role of Valence in Concept Learning, *Learning and Motivation*, 44(3), 174–183.
- Grohmann, A.; Kouwenberg, R.; and Menkhoff, L. (2014), *Financial Literacy and Its Consequences in the Emerging Middle Class*, Kiel: Kiel Institute for the World Economy.
- Hassan Al-Tamimi, H. A.; and Bin Kalli, A. A. (2009), Financial Literacy and Investment Decisions of UAE Investors, *The Journal of Risk Finance*, 10(5), 500–516.
- Helman, R.; Copeland, C.; and VanDerhei, J. (2015), The 2015 Retirement Confidence Survey : Having a Retirement Savings Plan a Key Factor in Americans' Retirement Confidence, *EBRI Issue Brief*, 413, 1–36.
- Hilgert, M. A.; Hogarth, J. M.; and Beverly, S. G. (2003), Household Financial Management : The Connection Between Knowledge and Behavior, *Federal Reserve Bulletin*, 89(7), 309–322.
- Kim, K. T.; Anderson, S. G.; and Seay, M. C. (2019), Financial Knowledge and Short-Term and Long-Term Financial Behaviors of Millennials in the United States, *Journal of Family and Economic Issues*, 40(2), 194–208.
- Klapper, L.; Lusardi, A.; and Panos, G. A. (2013), Financial Literacy and Its Consequences : Evidence from Russia during the Financial Crisis, *Journal of Banking & Finance*, 37(10), 3904–3923.
- Kotzé, L.; and Smit, A. (2008), Personal Financial Literacy and Personal Debt Management : The Potential Relationship with New Venture Creation, *The Southern African Journal of Entrepreneurship and Small Business Management*, 1(1), 35–50.
- Lam, D. (2015), Gender Differences in Risk Aversion Among Chinese University Students, *Journal of Gambling Studies*, 31(4), 1405–1415.
- Louw, J.; Fouché, J.; and Oberholzer, M. (2013), Financial Literacy Needs of South African Third-Year University Students, *The International Business & Economics Research Journal*, 12(4), 439–450.
- Lusardi, A.; and Mitchell, O. S. (2006), Financial Literacy and Planning : Implications for Retirement Well-being (DNB Working Papers 078), Netherlands Central Bank, Research Department.
- Lusardi, A.; and Mitchell, O. S. (2007a), Baby Boomers' Retirement Security : The Role of Planning, Financial Literacy and Housing Wealth, *Journal of Monetary Economics*, 54(1), 205–224.
- Lusardi, A.; and Mitchell, O. S. (2007b), Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education, *Business Economics*, 42(1), 35–44.

- Lusardi, A.; and Mitchell, O. S. (2011), Financial Literacy and Retirement Planning in the United States, *Journal of Pension Economics & Finance*, 10(4), 509–525.
- Lusardi, A.; Mitchell, O. S.; and Curto, V. (2010), Financial Literacy among the Young, *Journal of Consumer Affairs*, 44(2), 358–380.
- Oseifuah, E. K.; and Gyekye, A. B. (2014), Analysis of the Level of Financial Literacy among South African Undergraduate Students, *Journal of Economics and Behavioral Studies*, 6(3), 242–250.
- Ozdemir, A.; Temizel, F.; and Sonmez, H. (2015), Financial Literacy of University Students : A Case Study for Anadolu University, Turkey, *Uluslararası, Yonetim İktisat ve İşletme Dergisi*, 11(24), 97–110.
- Rousseau, G.; and Venter, D. (2016), Financial Insight and Behaviour of Household Consumers in Port Elizabeth, *Southern African Business Review*, 20(1), 236–258.
- Rugimbana, R.; and Oseifuah, E. K. (2010), Financial Literacy and Youth Entrepreneurship in South Africa, *African Journal of Economic and Management Studies*, 1(2), 164–182.
- Shaari, N. A.; Hasan, N. A.; Mohamed, R.; and Sabri, M. F. (2013), Financial Literacy : A Study Among the University Students, *Interdisciplinary Journal of Contemporary Research in Business*, 5(2), 279–299.
- Shahrabani, S. (2013), Financial Literacy among Israeli College Students, *Journal of College Student Development*, 54(4), 439–446.
- Soria, K. M.; Weiner, B.; and Lu, E. C. (2014), Financial Decisions among Undergraduate Students from Low-Income and Working-Class Social Class Backgrounds, *Journal of Student Financial Aid*, 44(1), 2–23.
- Tustin, D. H. (2010), An Impact Assessment of a Prototype Financial Literacy Flagship Programme in a Rural South African Setting, *African Journal of Business Management*, 4(9), 1894–1902.
- Van Nieuwenhuizen, B. J. (2009), *Financial Literacy as Core competency of South African Military Officers : A Measurement Instrument* (Master’s Thesis), University of Stellenbosch.
- Van Rooij, M.; Lusardi, A.; and Alessie, R. (2011), Financial Literacy and Stock Market Participation, *Journal of Financial Economics*, 101(2), 449–472.
- Volpe, R. P.; Chen, H.; and Pavlicko, J. J. (1996), Personal Investment Literacy among College Students : A Survey, *Financial Practice and Education*, 6(2), 86–94.
- Volpe, R. P.; Kotel, J. E.; and Chen, H. (2002), A Survey of Investment Literacy Among Online Investors, *Journal of Financial Counseling and Planning*, 13(1), 1–13.
- West, S.; and Friedline, T. (2016), Coming of Age on a Shoestring Budget : Financial Capability and Financial Behaviors of Lower-Income Millennials, *Social Work*, 61(4), 305–312.