Journal of Contemporary Issues in Business and Government Vol. 27, No. 02, 2021

https://cibgp.com/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Financial Knowledge, Saving and Investment Behaviour among Women: A Review

Khujan Singh

Haryana School of Business, Guru Jambheshwar University of Science and Technology, Hisar-125001, Haryana (India)

E-mail: kh_hsb@yahoo.co.in

Kavita Berwal

Haryana School of Business, Guru Jambheshwar University of Science and Technology, Hisar-125001, Haryana (India)

E-mail: kavitaberwal1111@gmail.com

Abstract

Financial knowledge is all about having financial awareness and understanding of various financial concepts and procedures. It also includes the proper application of this understanding in solving financial problems. Many countries are carrying out financial literacy surveys (particularly on their women section), thereby providing an insight into saving and investment-related knowledge as well as financial behavior. This paper is intended to review the literature relating to the level of financial knowledge among women section as well as to know the type of relationship financial knowledge holds with saving and investment behavior. The study also looked into the factors affecting both financial knowledge and saving & investment behavior of individuals. Along with this, do financial education courses or programs impact saving and investment behavior or not.

Keywords*:* Financial knowledge, saving and investment behavior and Financial courses.

Introduction

The financial environment and market have become complex with the launch of the new financial instrument every day by banks, government, insurance companies, etc. Nowadays, the government of India is putting efforts to enhance access to financial services through financial inclusion to increase accessibility to various credit products; thus creating a huge pool with a variety of financial products to choose from even for low-income groups (Filipiak and Walle, 2015). Moreover, changes in the current pension landscape have transferred the responsibility of decisions regarding financial security from the employers or government to participants and employees after their retirement. Thus, individuals are more prone and helpless against misleading practices by financial institutions and bankers (Grant, 2018).

https://cibgp.com/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Financial ignorance strikes too hard. The best financial outcomes demand an adequate level of financial knowledge. People who possess a low level of financial knowledge are likely to indulge in high-cost borrowings, spending more on transaction fees, pilling up debts, and saving fewer resources (Stango and Zinman, 2009; Lusardi and Tufano, 2015). Meanwhile, being financial literate has manifold potential benefits, as it is responsible for various financial outcomes such as participation in the stock market (Van Rooij *et al.*, 2011; Yoong, 2011); handling mortgages (Lusardi and Tufano, 2009); borrowing at low cost (Lusardi and Tufano, 2009; Fonseca *et al.*, 2012); retirement planning (Lusardi and Mitchell, 2008); budgeting, saving and controlled spending (Perry and Mooris, 2005) and wealth accumulation (Stango and Zinman, 2009; Lusardi and Mitchell, 2008; 2014). Thus, the understanding of basic financial concepts is essential for making informed saving and investment decisions during different stages of life.

Available literature provides conclusive evidence of the low level of financial knowledge across countries (Mandell and Klein, 2009; Gupta and Negi, 2014) and acute financial illiteracy was depicted particularly among teenagers, women, and low educated people (Lusardi and Mitchell, 2006) or lower-income groups (Lusardi, 2008). No doubt, women are leading in every sphere of life. They have even proved themselves to be masters of multi-tasking, thereby managing their careers and households simultaneously. But when the matter relates to financial planning, they take back seats and consider a man to be the financial planner of their lives. Various studies show that women exhibit lower financial knowledge and confidence in their financial affairs. Even the women for whom (e.g. widows and single women) financial knowledge is of the foremost importance in their day-to-day operations lack the knowledge of basic concepts of finance. But they need to understand that their financial needs differ from that of men and so as their savings and investment plan should. Women face distinctive financial challenges in their lifespan as compared to men - long life expectations (OECD, 2013), child-rearing leads to career interruptions, etc. Moreover, lower financial skills along with less availability of resources put up a big question on the financial security of women in their old age. Thus, for the financial well-being and financial independence of women, they need to decide how much they have to save for emergencies or retirement as well as how to allocate their wealth to different financial products to make money. Earning wealth is only halfway to achieve financial independence; rather putting it effectively to work is equally important. Thus the need for financial knowledge about various financial products arises. It's high time for women to make use of their financial knowledge

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

and get their savings out from their piggy banks to invest in a balanced portfolio that further helps their money grow and serve them during their financial distress.

Literature review

It is an obvious fact that to make informed decisions in the present and future, one needs to look back into the past. Analyzing the past lays down a strong foundation to predict what the future would likely be. This holds importance to take maximum advantage of future research. Thus an attempt has been made to summarize the arguments on financial knowledge and saving and investment behavior to acquire domain knowledge about the subject and find a research gap for further research.

Financial knowledge

While exploring the literature, different terminologies are used to denote knowledge and understanding of personal finance such as financial well-being, financial competency, financial capability, financial knowledge, and especially financial literacy. Financial knowledge is a vital element of financial literacy (Huston, 2010). In addition to this, it is most often considered as an equivalent word to financial literacy (Lusardi and Mitchell, 2011; Huang *et al.*, 2013; Bucher-Koenen *et al.*, 2016). Thus the scope of terminology points out that there is a lack of consensus in defining the term financial literacy (Frühauf and Retzmann, 2016). Some researchers defined financial knowledge as a person's understanding of various financial concepts (Huang *et al.*, 2013) or everything about finance that is experienced or that happens in regular day-to-day existence (Lusardi, 2019). While financial knowledge is illustrated into different categories- firstly, Conceptual financial knowledge- is all about factual knowledge of explicit financial concepts; the capacity to recall and distinguish various financial concepts and facts, and to order those concepts into significant classifications. Secondly, procedural financial knowledge- involves the knowledge of financial procedures and strategies or the ability to put on accurately arithmetic processes and financial calculations. Thirdly, applied financial knowledge- implies one's ability to put in use financial knowledge to resolve various financial issues and make informed financial decisions. Thus financial knowledge is all about having financial awareness as well as the understanding of various financial procedures and concepts. This also includes the proper application of this understanding in solving financial issues. Thus conceptual financial knowledge, procedural financial knowledge, and applied financial knowledge constitute the financial knowledge of an individual (IGI Global, 2020) As per Huston (2010), four

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

important elements define financial knowledge: basic monetary concept, saving or investment, borrowing, and at last protection concepts.

Approaches to financial knowledge

With the objective to assess the level of financial knowledge, researchers used two approaches - one is the objective approach while the other is a subjective approach. Under the objective approach, a test that measures various financial concepts namely- inflation, interest compounding, risk diversification, time value of money, and money illusion is conducted (Pudlo and Gavurova, 2012; Nguyen *et al.*, 2017). While the subjective approach, undertook self-assessment of financial knowledge. The objective approach holds its importance in economist's research while the subjective approach is often used in various economic and financial behavior studies on individual's perception of life satisfaction and well-being (Kahneman and Kruger, 2006), credit scores (Courchane *et al.*, 2008), risk attitude (Leonard, 2012). While Herd *et al.* (2012) assess the level of financial knowledge as the individual's knowledge of his financial situations rather than basic financial concepts and regarded it as a pre-requisite for effective decision making. Filipiak and Walle (2015) put forward some general financial knowledge questions (such as the current value of their investment government guarantees for deposits in national banks) while specific financial knowledge questions (covers Kisan card, credit card).

People with higher financial knowledge are likely to understand the basic financial concepts, numeracy, interest compounding, inflation impact on prices or investment returns, time value of money, an association between risk and return, risk reduction through diversification (Lusardi and Mitchell, 2006, 2011; Lusardi and Tufano, 2009; Remund, 2010; Atkinson and Messy, 2012; Huang et al., 2013; Yu *et al.*, 2015). Individuals display a lower level of financial knowledge and are unable to understand the concept of interest compounding (Lusardi and Tufano, 2009), and especially the Indian working youth are unable to comprehend basic financial principles and fails to assess the impact which inflation had on their return (Agarwalla *et al.*, 2013).

Financial knowledge and women

Although financial illiteracy is spread around the world, it is prominent among women section. Empirical data on financial illiteracy depicts one striking feature of wide and consistent gender difference (Lusardi and Mitchall, 2014; Hasler and Lusardi, 2017; Chen

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

and Garand, 2018; Preston and Wright, 2019). In both developed and developing countries, the level of financial knowledge of women is lower compared to men (OECD, 2013). 70% of women are financially illiterate compared with 65% of men. This gender gap on average is around 8% in advanced economies (known as G7) and 5% in emerging economies (known as BRICS) (Standard and Poor's Ratings Services Global Financial Literacy Survey, 2015). While in India, 80% of women are illiterate in comparison with 73% of men thereby making the gap wider. The existence of the gender gap may negatively impact the financial well-being of women (Fonseca *et al.*, 2012).

According to OECD (2013), the average performance of women in a test of financial knowledge is worse than that of men. Ample evidence support that women are less confident (Barber and Odean, 2001; Chen and Volpe, 2002; Lusardi and Mitchell, 2008; Bucher-Koenen *et al.*, 2016) and show less enthusiasm, particularly in financial affairs (Chen and Volpe, 2002). Further, Bucher-Koenen *et al.* (2017) pointed out that women give lower self-assessments of their financial knowledge as compared to men. There is more probability that they say, they do not know the answer and less chance to give correct answers to the questions (Bucher-Koenen *et al.*, 2017; Chen and Garand, 2018). As per Webster and Ellis (1996), even financial expert women show a lower level of self-confidence while analyzing their financial matters. Various studies reported that women are less likely to make informed financial decisions as they are more prone to indulge in costly credit card behaviors (such as late and overdraft fees) (Allgood and Walstad, 2011); less likely to plan and prepare for their retirement (Lusardi and Mitchell, 2008); engage in costly borrowing methods-payday lenders, pawnshops, etc (Lusardi and Tufano, 2009) and are more risk-averse than man (Almenberg and Dreber, 2015). Moreover, they are less likely to move out for financial education (Lusardi and Mitchell, 2008). The reasons which explain such a difference between the two genders include the disparity of the factors such as income level (Anthes and Most, 2000), their exposure to the world, and involvement in household responsibilities. The gender gap can be reduced with the existence of parity among the variables such as income and financial literacy. Filipiak and Walle (2015) stated the root cause for such a difference in financial knowledge among the two gender is not due to nature but its nurture viz. low investment in gaining financial knowledge or lower formal education or lower utilization of media as a source. Thus, a higher level of financial knowledge would enable them to accumulate and manage their wealth for retirement, and low-cost financing as well as gain confidence and independence in their financial affairs which would ultimately lead them to a secure future.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

The relation between financial knowledge, and saving and investment behavior

Many researchers have tried their hand at depicting the relation between financial knowledge and an individual's financial behavior. Most of the studies have identified a positive and significant relationship between financial knowledge and financial behavior (Hilgert *et al.*, 2003; Robb and Woodyard, 2011; Behrman *et al.*, 2012). Financial knowledge is considered a crucial element for best financial practices such as having an emergency fund (Hilgert *et al.*, 2003); planning for retirement (Kotlikoff and Bernheim, 2001); credit card management (Robb and Sharpe, 2009).

Robb and Woodyard (2011) found perceived financial knowledge to be a strong sign in governing the financial behavior of individuals. Supporting the findings, Henager and Mauldin, (2015) found financial knowledge (perceived) as a vital element responsible for the best financial practices as well as positive financial behavior like- retirement savings, emergency funds, and managing a credit card. Cole *et al.* (2011) believed that a higher level of financial knowledge was linked to the usage of insurance products in India along with bank accounts in Indonesia. Lusardi (2008) analyzed that the level of financial knowledge and numeracy possessed by individuals are the two important factors of household saving behavior. Furthermore, an individual's ability to save for a comfortable retirement is associated with the level of financial literacy and information; being ignorant even about basic financial concepts can result in a lack of wealth and ineffective retirement planning. As per Van Rooij *et al.* (2012), the one with a higher level of confidence in financial knowledge is more probable to save and plan for his retirement. Mitchell and Moore (1998) provided evidence to support that lack of financial knowledge is a reason for failure in effective retirement planning. Further, people's propensity to save for a long period is influenced by their level of financial knowledge. Likewise, Murendo and Mutsonziwa, (2017) found that the probability to save increases by 17% points in the case of the female while 15% points for males. Both formal and informal saving decisions are positively influenced by the level of financial knowledge (Kim and Yuh, 2018).

Various studies provided evidence to support a positive association between financial knowledge and the usage of various financial products and services (Honohan and King, 2012). Some authors are of the view that financial knowledge is associated with efficient credit management and satisfaction (Akin *et al.*, 2013); investment decisions like portfolio diversification (Guiso *et al.*, 2009; Abreu and Mendes, 2010), equities investments

https://cibgp.com/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

(Christelis, *et al.*, 2010) and mortgage performance (Gerardi, 2010). Furthermore, investors with a low level of financial knowledge were found to be less interested in stock market participation and use informal ways as a source of borrowing (Klapper *et al.*, 2012); are more prone to realize losses on the assets which they sold (Bucher-Koenen and Ziegelmeyer, 2011). Several studies revealed a causal effect of financial knowledge on the investment behavior of individuals. Abreu and Mendes (2010) find a positive impact of a higher level of financial literacy on portfolio diversification, and participation in the stock market (Alessie, *et al.*, 2007). Financially literate people better understand the concept of risk diversification and are more inclined to form stock as a part of their portfolio (Christelis *et al.*, 2010). In addition, evidence support that investors with higher financial knowledge invest in lower-cost funds (Hastings and Mitchell, 2011), and the investment performance lessen with advanced age (Korniotis and Kumar, 2011).

While some studies depict a limited effect of financial knowledge on an individual's saving behavior (Mauldin *et al.*, 2016; Hilgert *et al.*, 2003). Studies even show that financial knowledge is not indicative of good financial behavior rather financial knowledge influences financial attitudes which in turn governs the financial behavior (Borden et al, 2008; Tang and Baker, 2016; Yahaya *et al.*, 2019). Further, Robb and Woodyard (2011) support that financial knowledge (actual or objective) is not a dominant factor rather income level has a significant impact on financial behavior. Nguyen *et al.* (2017) suggested that it is the actual financial knowledge that shows a positive relationship with regular personal savings, not the other factors such as financial risk tolerance and perceived financial knowledge. Mauldin *et al.* (2016) looked into facilitators and barriers to saving behavior, especially in households in low to moderate-income groups, and found that likelihood of saving was not linked with a higher level of financial literacy. Further, Hilgert *et al.* (2003), found that an increase in financial knowledge doesn't need to result in improved financial management behavior including saving and investment rather reverse causality may be an outcome i.e. individuals may gain knowledge as and when they save and accumulate wealth.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Factors influencing financial knowledge

Table 1: Financial knowledge and demographic factors

Factors	**Findings**	**Studies**
Age	• Age is positively associated with the level of financial knowledge • Average age between 30- 40 years is linked with a higher level of financial knowledge. • A lower level of financial knowledge was found among young and older people. • A low level of financial knowledge among the youth across the world has been noticed.	Lusardi and Mitchell (2011); Almenberg and Soderbergh (2011); OECD (2013); Scheresberg (2013); Filipiak and Walle (2015); Garg and Singh (2018)
Gender	• low level of financial knowledge among women as compared to men • women are more risk-averse • they are not confident enough to make their own financial decision but rather seeks the guidance of their parents • show less willingness to learn and less enthusiasm, particularly in financial affairs • more likely that they are unknown the financial concepts and less likely to give correct answers to the questions	Chen and Volpe (2002); Lusardi and Mitchell (2011); OECD (2013); Filipiak and Walle (2015); Bucher-Koenen *et al.* (2016); Hasler and Lusardi (2017); Chen and Garand (2018)
Education level	• More educated people are more financially knowledgeable.	Lusardi and Mitchell (2011); Atkinson

https://cibgp.com/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

	● The higher the education, the more practical knowledge the person acquires about financial dealings. ● The one with a lower level of education are less likely to answer questions correctly and are more likely to say they don't know the answer ● Financial courses hold their importance in building up the financial knowledge of individuals and governing their financial behaviors.	and Messy (2012); Murphy (2013); Filipiak and Walle (2015)
Employment status	● Unskilled and unemployed people lack attitudes toward acquiring financial knowledge and are likely to respond much worse than those who are self-employed or workers. ● Employed and experienced people possess a higher level of financial knowledge due to their more familiarity with the economic and financial affairs of the organization ● A lower level of financial knowledge even among working women	Chen and Volpe, (1998); Lusardi and Mitchell (2011); Bucher-Koenen *et al.* (2016)
Income	● A lower level of income is linked with a lower level of financial knowledge. ● A significant and positive relationship between money management and earning as well as knowledge of retirement planning of individuals.	Monticone (2010); Atkinson and Messy (2012); OECD (2013); Filipiak and Walle (2015)
Family background and socialization	● The one with high family socioeconomic status possesses less knowledge with regards to their asset levels. ● Women prefer to approach their family and friends for advice on	Herd *et al.* (2012); Bucher-Koenen *et al.* (2016)

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

	financial affairs rather than financial advisors.	

Factors affecting saving and investment behavior

Table 2: Factors affecting saving and investment behavior

Factors	**Variables**	**Findings**	**Authors**
Demographic and socio-economic factors	Age, gender, Family size, Income, Education, Marital status, No. of dependents, net worth, homeownership, Family earning status, Occupation, Education	• Young investors choose to invest in the capital market i.e riskier assets providing higher returns while elderly investors invest mostly in bank accounts for stable returns. • Females are more conservative i.e. risk-averse, less confident, low satisfaction, and invest in fewer amounts than males. • The likelihood of a family owning a home increases, whereas the extent of investment in shares decreases with each additional child. • Married individuals are risk-takers because shared means of income and dual human capital may encourage them to go for riskier assets. • A higher dependency ratio indicates higher consumption expenditure thus the individual is left with lower savings.	Lutfi, L. (2011); Ahammad and Lakshmanna (2016); Shaikh *et al.* (2019).
Behavioral factors			
Cognitive aspect	Representative bias,	• While making investment decision investors tends to overreact in	DeBondt and Thaler

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

	Anchoring, Availability heuristics, Gambler's fallacy, Investor optimism; Overconfidence effect, Hindsight bias.	processing information due to Representativeness bias. • The results about anchoring, overconfidence, availability, and Gambler's fallacy bias show that : - Anchoring bias tends Investors use purchase price as a reference - overconfidence occurs in investors when the market rises while they become pessimistic when it falls - due to availability biases investors give unnecessary weight to easily available information - Investors suffering from Gambler's fallacy bias are likely to be biassed towards predicting reversals in stock prices. • An investor who is confident increases market vitality and trading volume as they trade too frequently thereby decreasing their expected profit. • Optimistic individuals are more interested in long-term investing as compared to pessimistic one.	(1995) ; Kahneman and Riepe (1998); Barberis (2001); Hunjra *et al.* (2012)
Emotional Aspect	Mental accounting, endowment effect, regret aversion, loss aversion	• The potential loss is more stressed for investors as compared to an equal value of potential gain thus they are more prudent while investing to reduce the risk of losses. • Investors separate outgoing and incoming funds as well as accounting models and use mental accounting in investment decisions thereby weighing the benefit and cost of all actions on the decision	Barberis and Thaler (2003); Pompian and Wood (2006).

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

		taken. • Regret aversion seeks to anticipate the pain of regret which is associated with poor decision making thus investors hold onto losing position for a long time to avoid some admitting errors and to realize losses.	
Herding Aspect	Following actions of others instead of following own beliefs or own information in choosing, buying, selling, and trading investments.	• As investors choose the decisions of others over their personal decision so they react impulsively to the decisions of others. • Investors rely on collective information rather than personal information. • If the majority of investors go with the wrong decision it may result in significant market price deviations. • Herding behavior is more prevalent in developing countries emerging markets and market stress situations.	Banerjee (1992); Chang *et al.* (2000); Hirshleifer and Teoh (2003); Humra (2014); Rahayu *et al.* (2020).

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Do financial education courses or programs impact saving and investment behavior?

Numbers of countries are coming up with new national financial education strategies and programs and investment in such programs as responsible financial behavior is the outcome of financial knowledge (Grifoni and Messy, 2012). Borden *et al.* (2008) thought that financial courses and seminars are the tools to aware students of the importance of good financial behavior and improve their level of financial knowledge, attitude, and financial behavior. However, the evidence from the literature connecting financial education and saving and investment outcomes furnish variegated results. As per Clark and d'Ambrosio (2008), financial education can induce workers to reassess their retirement goals and alter their saving and investment behavior. Bruhn and Love (2016) comprehend the financial education program for high school students in Brazil and found that the program leads to an increase in the level of financial knowledge, increased savings, and improvement in current and future-looking intentions to save. Likewise, Bernheim and Garrett (2003) concluded that employees who attend retirement seminars sponsored by the employer are more likely to save for their retirement, after controlling a wide range of characteristics. Moreover, Clark and Madeleine (2008) believed that the problem of a decrease in savings can be brought under control through effective financial knowledge and saving programs. Contrary to these findings, Bruhn *et al.* (2014) in an experiment in Mexico on a four-hour instructional course covering retirement and other things, the author found a low level of interest among the general population for being a part of the course. Additionally, there is a short-term boost in some saving measures but no impact on retirement savings through training. Peng *et al.* (2007) evaluated the effectiveness of personal finance courses provided by the college in improving the investment knowledge of high school students. He did not find the level of knowledge to be higher among the students who took the course as compared to the ones who did not complete the course. However, respondents with more financial experience such as owning bank and investment accounts and observing the saving habits of parents had higher saving rates than the ones with less financial experience. Bruhn *et al.* (2016) found that the financial education program had an impact on the majority of outcomes except that on savings.

Conclusion

The available literature lifted the veil upon the following facts:-

- Financial knowledge is all about having financial awareness and understanding of various financial concepts as well as procedures. This also includes the proper application

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

of this understanding in solving financial problems. Financially knowledgeable people understand basic financial concepts like- inflation, interest compounding, the association between risk and return, diversification, time value of money.

- Globally, women possess a lower level of financial knowledge and are less confident, thus unable to make informed financial decisions as compared to men (OECD, 2013; Bucher-Koenen et al., 2016; Lusardi and Mitchell, 2008).
- Countless studies track down a positive relationship between financial knowledge and the saving behavior of individuals (Murendo and Mutsonziwa, 2017; Henager and Mauldin, 2015; Lusardi 2008; Mitchell and Moore, 1998). Be that as it may, the outcome is not consensual, as other authors (Mauldin et al., 2016; Robb and Woodyard, 2011; Hilgert et al., 2003) identified a limited relationship between the two.
- While a positive relationship is depicted between the level of financial knowledge and investment decisions such as portfolio diversification, mortgage performance, and equity investment.
- Demographic factors which influence financial knowledge such as age, income, education, marital status, income and gender. Empirical research shows that financial knowledge is contrarily related to certain factors such as female, young and older individuals, lower education or Unskilled, Unemployed, or lower pay individuals (Filipiak and Walle, 2015; OECD, 2013; Garg and Singh, 2018; Atkinson and Messy, 2012; Almenberg and Säve-Söderbergh, 2011).
- Education programs are used as a tool to boost saving and investment by policymakers but studies show them as a short-term boost in saving levels while financial experience and financial attitude also govern saving and investment behavior.
- Thus, financial knowledge is an important element in decision making and plays a significant role in governing the saving and investment behavior of individuals but financial knowledge alone is an insufficient indicator of best financial practices. Various demographic and socioeconomic as well as behavioral factors significantly impact the saving and investment behavior of individuals.

References

Abreu, M. and Mendes, V. (2010). Financial Literacy and Portfolio Diversification. *Quantitative Finance, 10* (5), 515–528.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Agarwalla, S. K., Barua, S. K., Jacob, J. and Varma, J. R. (2013). Financial Literacy among Working Young in Urban India. IIMA Working Paper No. 2013-10-02, 1-27.

Ahammad, D. O. W. L. A. T. H. and Lakshmanna, D. (2016). Influence of Demographic Factors on the Investment Behaviour of Individual Investors of Rayalaseema Region. *International Journal of Scientific Engineering and Technology Research*, *5*(46), 9603-9605.

Akin, G. Gulsun, Ahmet Faruk Aysan, Serap Ozcelik and Levent Yildiran. (2013). Credit Card Satisfaction and Financial Literacy: Evidence from an Emerging Market Economy. *Emerging Markets Finance and Trade 48*(5), 103-115.

Alessie, R., Lusardi, A. and Van Rooij, M. (2007). Financial literacy and stock market participation. Working Paper 13565, National Bureau of Economic Research.

Allgood, S. and Walstad, W. (2011). The effects of perceived and actual financial knowledge on credit card behavior. Networks Financial Institute Working Paper (15).

Almenberg, J. and Dreber, A. (2015) Gender, stock market participation and financial literacy. Economics Letters, 137(December), 140–142.

Almenberg, Johan and Jenny Säve-Söderberg. (2011). Financial Literacy and Retirement Planning in Sweden. CeRP Working Paper, No.112, Turin (Italy).

Anthes, W. L. and Most, B. W. (2000). Frozen in the headlights: The dynamics of women and money. *Journal of Financial Planning*, *13*(9), 130.

Atkinson, A. and Messy, F., (2012). Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study. OECD Working Papers on Finance. Insurance and Private Pensions. No. 15. OECD Publishing.

Banerjee, A. V. (1992). A simple model of herd behavior. *The quarterly journal of economics*, *107*(3), 797-817.

Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The quarterly journal of economics*, *116*(1), 261-292.

Barberis, N. (2001) 'Investors seek lessons in thinking', Financial Times. *Mastering Investment Part, June 18.*

https://cibgp.com/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Barberis, N. and Thaler, R. (2003). A survey of behavioral finance. *Handbook of the Economics of Finance*, *1*, 1053-1128.

Behrman, J. R., Mitchell, O. S., Soo, C. K. and Bravo, D. (2012). How financial literacy affects household wealth accumulation. *American Economic Review*, *102*(3), 300-304.

Bernheim, B. D. and Garrett, D. M. (2003). The effects of financial education in the workplace: Evidence from a survey of households. *Journal of public Economics*, *87*(7-8), 1487-1519.

Borden, L. M., Lee, S. A., Serido, J. and Collins, D. (2008). Changing college students' financial knowledge, attitudes, and behavior through seminar participation. *Journal of family and economic issues*, *29*(1), 23-40.

Bruhn, M. and Love, I. (2014). The real impact of improved access to finance: Evidence from Mexico. *The Journal of Finance*, *69*(3), 1347-1376.

Bruhn, M., Leão, L. D. S., Legovini, A., Marchetti, R. and Zia, B. (2016). The impact of high school financial education: Evidence from a large-scale evaluation in Brazil. *American Economic Journal: Applied Economics*, *8*(4), 256-95.

Bucher-Koenen, T. and Ziegelmeyer, M. (2011). Who Lost the Most? Financial Literacy, Cognitive Abilities, and the Financial Crisis. Working Paper no 1299, European Central Bank, February.

Bucher-Koenen, T., Lusardi, A. and Alessie, R. J. (2016). How Financially Literate Are Women? An Overview and New Insights. GFLEC Working Paper-2016-1, 1-37.

Bucher-Koenen, T., Lusardi, A., Alessie, R. and Van Rooij, M. (2017). How financially literate are women? An overview and new insights. *Journal of Consumer Affairs*, *51*(2), 255-283.

Chang, E. C., Cheng, J. W. and Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. *Journal of Banking and Finance*, *24*(10), 1651-1679.

Chen, H. and Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial services review*, *7*(2), 107-128.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Chen, H. and Volpe, R. P. (2002). Gender Differences in personal Financial Literacy Among College Students. *Financial Services Review, 11*(3), 289-307.

Chen, Z. and Garand, J. C. (2018). On the gender gap in financial knowledge: Decomposing the effects of don't know and incorrect responses. *Social Science Quarterly*, *99*(5), 1551-1571.

Christelis, D., Jappelli, T. and Padula, M. (2010). Cognitive Abilities and Portfolio Choice. *European Economic Review, No. 54*(1), 18-38.

Clark, R. and d'Ambrosio, M. (2008). Adjusting retirement goals and saving behavior: The role of financial education. Overcoming the Saving Slump*: How to Increase the Effectiveness of Financial Education and Saving Programs,* 237-256.

Cole, E. F., Cram, D. L. and Quinn, J. L. (2011). Individual variation in spontaneous problem-solving performance among wild great tits. *Animal Behaviour*, *81*(2), 491-498.

Courchane, M., Gailey, A. and Zorn, P. (2008). Consumer credit literacy: What price perception? *Journal of Economics and Business, 60*(1–2), 125–138.

de Bassa Scheresberg, C. (2013). Financial literacy and financial behavior among young adults: Evidence and implications. *Numeracy*, *6*(2), 5.

De Bondt, W. F. and Thaler, R. H. (1995). Financial decision-making in markets and firms: A behavioral perspective. *Handbooks in operations research and management science*, *9*, 385-410.

Filipiak, U. and Walle, Y. M. (2015). The financial literacy gender gap: A question of nature or nurture? Courant Research Centre: Poverty, Equity and Growth. Discussion Papers No. 176.

Fonseca, R., Mullen, K. J., Zamarro, G. and Zissimopoulos, J. (2012). What explains the gender gap in financial literacy? The role of household decision making. *Journal of Consumer Affairs, 46*(1), 90-106.

Frühauf, F. and Retzmann, T. (2016). Financial literacy in Germany. In *International handbook of financial literacy* (pp. 263-276). Springer, Singapore, pp 263–276.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Garg, N. and Singh, S. (2018). Financial literacy among youth. *International Journal of Social Economics*, Vol. 45 No. 1, pp. 173-186.

Gerardi, K. (2010). Financial literacy and subprime mortgage delinquency: Evidence from a survey matched to administrative data. Diane Publishing.

Grant, A. (2018). Royal Commission Shows Banks Have Behaved Appallingly, but We've Helped Them Do It', The Conversation, 28 September. Available from: https://theconversation.com/royal-commission-showsbanks-have-behaved-appallingly-but-weve-helped-the m-do-it-103998.

Grifoni, A. and F. Messy (2012).Current Status of National Strategies for Financial Education: A Comparative Analysis and Relevant Practices. *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 16, OECD Publishing, Paris, https://doi.org/10.1787/5k9bcwct7xmn-en.

Guiso, L., Jappelli, T. and Padula, M. (2009). Pension risk, retirement saving and insurance. EUI ECO, 2009/18. Available from: http://hdl.handle.net/1814/11257

Gupta, K. and Negi, V. (2014). Financial literacy of Himachal Pradesh "A Case Study of Shimla". *IMPACT: International Journal of Research in Business Management, Wakanaghat, Setembro*, 1-14.

Hasler, A. and Lusardi, A. (2017). The gender gap in financial literacy: A global perspective. *Global Financial Literacy Excellence Center, The George Washington University School of Business*.

Hastings, J., Mitchell, O. S. and Chyn, E. (2011). Fees, framing, and financial literacy in the choice of pension manager. *Financial literacy: Implications for retirement security and the financial marketplace*, *101*.

Henager, R. and Mauldin, T. (2015). Financial literacy: The relationship to saving behavior in low-to moderate-income households. *Family and Consumer Sciences Research Journal*, *44*(1), 73-87.

Herd, P., Holden, K. and Su, Y. T. (2012). The Links between Early- Life Cognition and Schooling and Late-Life Financial Knowledge. *The Journal of Consumer Affairs, Fall, 46*(3), 411-435.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Hilgert, M. A., Hogarth, J. M. and Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull., 89*, 309.

Hirshleifer, D. and Hong Teoh, S. (2003). Herd behaviour and cascading in capital markets: A review and synthesis. *European Financial Management*, *9*(1), 25-66.

Honohan, P. and King, M. (2012). Cause and effect of financial access: cross-country evidence from the Finscope surveys. *Banking the world: empirical foundations of financial inclusion*, 45-84.

Huang, J., Nam, Y. and Sherraden, M. S. (2013). Financial Knowledge and Child Development Account Policy: A Test of Financial Capability. *The Journal of Consumer Affairs, Spring, 47*(1), 1-26.

Humra, Y. A. S. H. B. A. (2014). Behavioral finance: An introduction to the principles governing investor behavior in stock markets. *International Journal of Financial Management*, *5*(2), 23-30.

Hunjra, A. I., Rehman, K. U. and Ali Qureshi, S. (2012). Factors affecting investment decision making of equity fund managers. *Wulfenia Journal*, *19*(10).

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316.

IGI Global (2020). Retrived from: www.igi-global.com/dictionary/financial-literacy/47374.

Kahneman, D. and Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *The Journal of Economic Perspectives, 20*(1), 3–24.

Kahneman, D. and Riepe, M. W. (1998). Aspects of investor psychology. *Journal of portfolio management*, *24*(4), 52-+.

Kim, K. T. and Yuh, Y. (2018). Financial knowledge and household saving: Evidence from the survey of consumer finances. *Family and Consumer Sciences Research Journal*, *47*(1), 5-24.

Klapper, L., Lusardi, A. and Panos, G. A. (2012). Financial Literacy and the Financial Crisis. NETSPAR Discussion Papers, 03/2012-007, 1-52.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Korniotis, G. M. and Kumar, A. (2011). Do older investors make better investment decisions?. *The Review of Economics and Statistics*, *93*(1), 244-265.

Kotlikoff, L. J. and Bernheim, B. D. (2001). Household financial planning and financial literacy. In L. J. Kotlikoff (Ed.) Essays on saving, bequests, altruism, and life-cycle planning (pp. 427-478).

Leonard, M. D. L. (2012). Risk preferences and expected utility: Evidence from labor supply data. *Economic Inquiry, 50*(1), 264–276.

Lusardi, A. (2008). Household saving behavior: The role of financial literacy, information, and financial education programs. National Bureau of Economic Research (No. w13824).

Lusardi, A. (2019). Financial literacy and the need for financial education: evidence and implications. *Swiss Journal of Economics and Statistics, 155*(1), 1.

Lusardi, A. and Mitchell, O. (2008). Planning and Financial Literacy: How Do Women Fare?. *American Economic Review, 98(*2), 413-417.

Lusardi, A. and Mitchell, O. (2014), The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), pp. 5-44.

Lusardi, A. and Mitchell, O. S. (2006). Financial literacy and planning: Implications for retirement well-being. Working Paper No. 1, Pension Research Council, Wharton School, University of Pennsylvania.

Lusardi, A. and Mitchell, O. S. (2011). Financial literacy around the world: an overview. *Journal of Pension Economics and Finance, 10*(4), 497–508.

Lusardi, A. and Tufano, P. (2009). Debt Literacy, Financial Experiences, and Overindebtedness. NBER Working Paper 14808, 1-44.

Lusardi, A. and Tufano, P. (2015). Debt literacy, financial experiences, and overindebtedness. *Journal of Pension Economics and Finance, 14*(4), 332-368.

Lutfi, L. (2011). The relationship between demographic factors and investment decision in Surabaya. *Journal of Economics, Business, and Accountancy Ventura*, *13*(3).

Mandell, L. and Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning, 20*(1), 15-24.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Mauldin, T. A., Henager, R., Bowen, C. F. and Cheang, M. (2016). Barriers and facilitators to saving behavior in low-to moderate-income households. *Journal of Financial Counseling and Planning, 27*, 231–251.

Mitchell, O. S. and Moore, J. F. (1998). Can Americans afford to retire? New evidence on retirement saving adequacy. *Journal of Risk and Insurance*, 371-400.

Monticone, C. (2010). How much does wealth matter in the acquisition of financial literacy?. *Journal of Consumer Affairs*, *44*(2), 403-422.

Murendo, C. and Mutsonziwa, K. (2017). Financial literacy and savings decisions by adult financial consumers in Zimbabwe. *International journal of consumer studies*, *41*(1), 95-103.

Murphy, J. L. (2013). Psychosocial factors and financial literacy. *Soc. Sec. Bull.*, 73, 73.

Nguyen, T., Rózsa, Z., Belás, J. and Belásová, L. (2017). The effects of perceived and actual financial knowledge on regular personal savings: Case of Vietnam. *Journal of International Studies, 10*(2), 278-291.

OECD. (2013). Financial Literacy Framework. In OECD, PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy, (pp. 139-166). OECD Publishing, Paris.

Peng, T. C. M., Bartholomae, S., Fox, J. J. and Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. *Journal of family and economic issues*, *28*(2), 265-284.

Perry, V. G. and Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *The Journal of Consumer Affairs, 39*(2), 299-313.

Pompian, M. M. and Wood, A. S. (2006). Behavioral Finance and Wealth Management: How to Build Optimal Portfolios for Private Clients. New Jersey: John Wiley and Sons, Inc. Retrieved from http://library. perbanas. ac. id/images/book/behavioralfinance. pdf.

Preston, A.C. and Wright, R.E. (2019) Understanding the gender gap in financial literacy: evidence from Australia. Economic Record, 95(S1), 1–29.

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Pudło, P. and Gavurova, B. (2012). Experimental learning in higher education, using simulation games as learning tool. 12th International Multidisciplinary Scientific Geoconference, SGEM 2012, Vol. III, Book Series: International Multidisciplinary Scientific GeoConference-SGEM, 2012, 1093-1100.

Rahayu, S., Rohman, A. and Harto, P. (2020). Herding behavior model in investment decision on Emerging Markets: Experimental in Indonesia. Journal of Asian Finance, Economics, and Business, 8(1), 53-59. https://doi.org/10.13106/jafeb.2021.vol8.no1.053

Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs, 44*(2), 276-295.

Robb, C. A. and Sharpe, D. L. (2009). Effect of personal financial knowledge on college students' credit card behavior. *Journal of Financial Counseling and Planning*, *20*(1).

Robb, C. A. and Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Journal of financial counseling and planning*, *22*(1), 60-70.

Shaikh, G. M., Katpar, N., Kalhoro, M. and Kamal, Y. (2019). Do behavioral biases in gender differences affect investment decisions. *Sociology International Journal*, *3*(4).

Stango, V. and Zinman, J. (2009). Exponential growth bias and household finance. *The Journal of Finance, 64*(6), 2807-2849.

Tang, N. and Baker, A. (2016). Self-esteem, financial knowledge and financial behavior. *Journal of Economic Psychology*, *54*, 164-176.

van Rooij, M. C. J, Lusardi, A. and Alessie, R. J. M. (2011). Financial literacy and stock market participation. *Journal of Financial Economics, 101*(2), 449–472.

Van Rooij, M. C., Lusardi, A. and Alessie, R. J. (2012). Financial literacy, retirement planning and household wealth. *The Economic Journal*, *122*(560), 449-478.

Webster, R. and T. Selwyn E. (1996). Men's and women's self-confidence in performing financial analysis, Psychological Reports, 79, pp. 1251-1254.

Yahaya, R., Zainol, Z., Osman, J. H., Abidin, Z. and Ismail, R. (2019). The Effect of Financial Knowledge and Financial Attitudes on Financial Behavior among University

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI:10.47750/cibg.2021.27.02.662

Students. *International Journal of Academic Research in Business and Social Sciences*, *9*(8), 13-24.

Yoong, J. (2011). Financial illiteracy and stock market participation: Evidence from the RAND American Life Panel. *Financial literacy: Implications for retirement security and the financial marketplace*, *76*.

Yu, K. M., Wu, A. M., Chan, W. S. and Chou, K. L. (2015). Gender Differences in Financial Literacy Among Hong Kong Workers. *Educational Gerontology, 41*(4), 315-326.