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Ananya Tripathi
JIM

Niharika Agrawal
JIM

Kaushik Sharma
JIM

Gaurav Pandey
JIM

Shivam Verma
JIM

See next page for additional authors

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Authors
Ananya Tripathi, Niharika Agrawal, Kaushik Sharma, Gaurav Pandey, Shivam Verma, Smally ., Shrishti Mittal, and Nidhi Singh

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SUBMITTED BY- GROUP 5

ANANYA TRIPATHI- JL20PG021
NIHARIKA SRIVASTAVA- PGFA2032
KAUSHIK SHARMA- PGFC2024
GAURAV PANDEY- PGFC2020
SHIVAM VERMA- JJ/2020-22/0147
SMALLY- JL20FS046
SHRISHTI MITTAL- JL20FS047

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INTRODUCTION

In 2008, the great depression brought attention to the need of financial literacy and self-efficacy (Klapper, Lusardi, & Panos, 2013) because biasedness and irrational behaviour was very much evident in the investors' behaviour which reflected upon the lack of adequate knowledge (Friedman & Kraus, 2011). This study is dedicated to highlight the need and importance of predictors of financial behaviour. The two important factors here taken are Financial Literacy and Self Efficacy.

Financial literacy and behavioral finance are becoming an important element in the area of economic and particularly financial education. Nowadays, primary schools begin the process of teaching financial education and it continues through secondary and high school. Furthermore, several programs aimed at boosting financial literacy among individuals have begun. Individuals have a wide choice of options for learning about financial matters. The world population is becoming more aware of behavioral finance and related to financial expertise.

It was decided to apply the construct of self-efficacy to the context of financial management, which was designated as **financial self-efficacy**. The expectation is that individuals who have a higher level of financial self-efficacy will make better financial decisions and it will be easier for them to deal with financial difficulties (Bandura, 1977). The role of financial self-efficacy in the strengthening of the association between the dependent and independent variables is discussed in this article, along with the direct relationship between financial self-efficacy and financial behaviour.

Self efficacy can also be defined as a faith of a person derived from their achievements and their core competencies. It is assumed that if the self efficacy is low, the individual will not be participative in financial activities and vice versa (Van & Bagget, 2002). This theory suggests that the ones with high levels of self efficacy will not be intimidated by a difficult task because they will see it as a challenge rather than a threat to their abilities. To put it another way, self-efficacy has the effect of creating a self-fulfilling stimulus (Gecus, 2003)

An individual's financial well-being is determined by his or her ability to manage his or her financial affairs, and financial literacy can be seen as way to make better financial decisions. Financial literacy can be defined as the ability of a person to make informed decisions when it comes to the use and management of money (Noctor, Stoney, & Stradling, 1992). Financial literacy refers to not only having a primary knowledge of financial concepts, but also having the ability to apply the learnings in decision making.

Other aspect of this study is Irrational behaviour and biasedness affected by the financial literacy and self efficacy and its overall impact on investment decision. The significance of psychology in finance is emphasized in behavioral finance. Its goal is to use psychology-based theory to understand individual behavior and financial market movements. A general assumption in the field of behavioral finance is that an individual's personality and information structure have a substantial impact on financial markets. Even in determining economic or financial decisions, despite the reality that human psychology often influences human judgments, classical theory insists on perfectly rational individuals and efficient markets. Behavioral finance theory and study are relatively new, yet their roots can be traced back to Adam Smith. People, according to Smith, make decisions based on impressions and beliefs rather than rational data analysis.

This article examines human behavior and how it may influence their decisions, depending on their level of financial literacy. The study's purpose is to see if there is a link between financial literacy and the prejudices being researched. The goal is to see how financial literacy affects behavioral biases and heuristics sensitivity.

The study has taken account of the following biases: Overconfidence, availability, illusion of control, risk aversion, cognitive dissonance, and the status quo effect are all influenced by financial literacy. The goal is to determine whether increased financial literacy can lead to improvements in individuals' rational conduct.

REVIEW OF LITERATURE

Financial Literacy is *"the process by which financial consumers or investors improve their understanding of financial products and concepts, and through information, instruction, and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities to make informed choices, to know where to go for help, and to take other effective actions to improve their financial wellbeing"* as defined by LUSADI (2007).

This literature tells that Financial Literacy helps in the prediction of concepts like "Financial wellbeing, financial decision making and financial behavior". Financial Literacy has different relation with retirement planning and poverty. Mc Daniel has also suggested that there is difference between financial literate and financial expert.

Financial Self – Efficacy (FSE) has evolved from simple concepts of Self- Efficacy concepts. (Dietz, Carrozza, & Ritchy, 2003) invented a tool to measure FSE. The tool and the scale were then adopted by Global Mastery Scale. If an investor has high Financial Self- Efficacy (FSE) then he can have more savings, financial happiness and can also reduce his financial debt, financial problems, and financial stress.

"Behavior can be defined as any type of reaction by an individual in response to stimuli in their surrounding environment". Therefore, financial behavior is response of an investor in regards with saving, cash and credit. These are few important financial behaviors which has been analyzed by (Bernheim & Garrett, 2003). He evaluated the Financial Behavior of different investors by examining the saving and expenditure habits, lending and borrowing patterns, capability of budgeting and understanding different financial products prevailing in the market. According to his study knowledge about different financial product does not affect Financial Behavior of an individual investor.

This study has been drawn from six main theory of Behavioral Finance Theory of Prospect Theory, The Social Cognitive Theory, Overconfidence, Availability Bias, Illusion of Control and Status Quo Bias. According to the Theory of Prospect, the most important factor for investor to make investment is the risk involved in making a particular financial decision. The investor analysis all the prospects of all loss and gain that can take place in investing in particular area and its alternatives. Financial Literacy access them in selecting the best option and hence manages their financial behavior.

The Social Learning Theory was given by Albert Bandura which later evolved into Social cognitive Theory. This theory states that *"to the concept of self-efficacy, which says that in order for someone to do something or reach a goal, they need to be more effective. People who have a high sense of self-efficacy will be more motivated, and this would make them do better at their jobs".* Therefore, performance of task is solely dependent on how confident an individual is.

Overconfidence is when a person or individual overestimate his/her abilities and knowledge. They have perception that the set of knowledge and skill they have is higher than the knowledge and skill of other people.

Availability Bias is defined as a "Mental Shortcut". It is said to be estimation of certain outcome based on the familiarity of the situation to the individual. In this Biases repeated data is more likely to be considered.

Illusion of Control is mindset where an individual believes that he can control the outcome which is next to impossible. Some people think that they are good in prediction and can control the outcome, but it can ruin their future performance.

METHODOLOGY/ DATA COLLECTION METHOD

Research method- Secondary Research

This study was done with the help of secondary data resources available to us through published research material, journal reports and other similar documents (cited in the references).

Personal finance or financial understanding, wealth management, and insurance benefits were the four most important variables which were used to assess financial literacy (Australian , 2016) loans, savings, wealth creation plan, and credit or debit card finance all these influenced individual

financial behaviour (Nye & Hillyard, 2013). Six items from the financial self-efficacy instrument were used to assess financial self-efficacy (Lown, 2011). Apart from all this, the researcher also analyzed socioeconomic characteristics such as age of an individual, region, income, and education. An effort had also been carried out to ascertain if monetary decisions are being made by the people himself/herself or with the assistance of a wife or husband, or any other relatives

Following sources were used to collect the data for this report.

- Internet- We were able to access the famous published journals on financial literacy, behavioral finance and biased investment decision with the help of Google Scholar and Sci-Hub. These websites are authentic and readily provide information.
- Commercial sources: Newspapers like Economic Times and The Business Standard were also a great source of information in order to gain a deeper understanding of the topic.
- Statistica: In this study, to analyze the relationship between financial literacy and behavioral bias, we were able to find a P-value test (hypothesis test) on this website. This data we have used to establish the above-mentioned relationship.

DATA ANALYSIS

Case 1: The aim of this analysis is to establish the role of financial literacy and self efficacy in modelling the financial behaviour and investment decision.

If we try to do analysis with correlation, all the three factors are very much or we can say highly related correlated ($p = 0.05$).

- **Financial literacy and financial self-efficacy had the highest correlation**.

To assess the significant effect of financial literacy on financial behavior, regression analysis was done and below table is the result of regression.

	□	Std. error	t	Sig.	Tolerance	VIF
(Constant)	1.546	0.268	5.775	0.00	1	**1**
FL	0.528	0.077	6.827	0.00		
	r	**R^2**	**Adjusted R^2**	**Std. Error of Estimate**	**F**	**Sig.**
1	**0.437**	**0.191**	**0.186**	**0.673825**	**46.614**	**0.00**

The value of r2 came 0.191 after calculation, which was indicating that financial literacy of 19.1 %of the people who were there in this research effected their financial behavior The regression analysis was observed to be significantly meaningful (p.05), and the linear regression shown below was developed;

- $\underline{\textit{Financial behaviour} = \mathbf{1.546} + \mathbf{0.528} * \textit{Financial Literacy}}$

	Effect	Total Effect		R^2
FL=>FB	0.189	0.528	**FB**	**0.191**
FL=>FSE	0.748			
FSE=>FB	**0.452**			

This approach which connects financial literacy and financial self-efficacy is quiet statistically relevant (b=.7475, s.e=.0703, p0.05). This approach between financial literacy to financial behavior also indicates positive and statistically significant (b=.1898 s.e=.0886 p0.05), thus , implying that anyone with better financial literacy might have better financial behavior than someone with relatively low financial literacy.

The effect (b=.4521 s.e=.0715 p0.005) from financial self-efficacy to financial behavior seems to be highly significant and positive (b=.4521 s.e=.0715 p0.005), implying that participants with

higher levels of financial self-efficacy can have better financial behavior than participants with lower financial self-efficacy. Bootstrapping study also showed a strong mediating impact.

Case 2: The aim of this analysis is to find the influence of financial literacy on certain behavioral bias and establish a relationship between the two aspects.

As previously stated, the primary goal of this article is to determine whether one's level of financial literacy has an impact on one's proclivity to particular biases. From a report by (Josef & Vera, 2021) and (Baker & Vctor, 2014) a total of six cognitive biases were chosen for this study. These biases are as follows:

- Status quo bias
- Overconfidence bias
- Availability bias
- Illusion of control bias
- Risk aversion bias
- Cognitive dissonance bias

Below is the analysis of the results found from our secondary research.

Output:

Table 1: shows a comparison between investors who are affected by **status quo bias** with the investors who do not face the said bias.

Source: Statistica, 2020

	Average	P-value (T-test)	P value (F-test)
Sample respondent suffer from bias	13.05	0.347	0.376
Sample respondent does not suffer from bias	14.05		

Analysis:

The objective of this table is to study the differences between the sample of respondents who are not subjected to the status quo bias and the sample of respondents who are subjected to the status

quo bias. In the table above, it is possible to see that the average values for the two groups differ from one another. The p-value of the t-test, on the other hand, is higher than the level of significance. This is also the only test that does not meet one of the requirements the normal data distribution and is therefore disqualified. When it comes to one of the groups, the assumption of normality is not met. Hence, the effect of status quo bias is disregarded.

If financial literacy influences one's inclination to the status quo bias, the status quo bias did not rule out the null hypothesis that was tested.

Table 2: shows a comparison between investors who are affected by **cognitive dissonance bias** with the investors who do not face the said bias.

Source: Statistica,2020

	Average	P-value (T-test)	P – Value (F test)
Sample respondent suffer from bias	12.041	0.025	0.34
Sample respondent does not suffer from bias	14.03		

Analysis:

This table shows the result of the cognitive dissonance test. There is a significant difference in responses of both the sample group.

Responses from sample respondents who are not affected by the cognitive dissonance bias have yield approximately 2 points higher than the sample of respondents who are in fact affected by cognitive dissonance bias. We can infer that there is a negative relationship between the two variables because respondents who did not have this bias have scored higher. The presence of a statistical difference between the groups is also confirmed by a low p- value. The p-value of the F-test is shown in the table, establishes a verification on the correctness of the model.

According to our findings, there is a significant impact of the level of financial literacy on investor's tendency to have cognitive bias meaning, the presence of the cognitive bias appears to be influenced by the level of financial literacy of the participants. The test confirms that those who develop greater financial literacy skills have a greater likelihood of being less influenced by this

bias. It is possible that their decision is influenced by their confidence in their skills and education, rather than their emotions.

Table 3: shows a comparison between investors who are affected by **availability bias** with the investors who do not face the said bias.

Source: Statistica,2020

	Average	P-value (T-test)	P – Value (F test)
Sample respondent suffer from bias	14.84	0.099	0.294
Sample respondent does not suffer from bias	13.33		

Analysis:

Availability bias is another very significant bias discovered to be significant in this research of financial literacy vs. biased behaviour. An important factor to note is that the calculated p-value is on the verge of reaching the level of statistical significance value; the null null hypothesis is rejected nevertheless. In comparison to the previous results, we the research finds one significant difference. People who are affected by the Availability bias have achieved a higher level of financial literacy. There is a significant and positive relationship between the level of financial literacy and inclination towards availability bias.

There is, however no solid explanation of the underlying causes and for this trend. According to the findings, it can be concluded that having more knowledge and information can result in a greater proclivity to availability bias. The respondents who have a higher level of financial literacy appear to be more interested in finding ways to make decision-making easier. When it comes to the availability bias, it appears to be true that sometimes more is less.

Table 4: shows a comparison between investors who are affected by **overconfidence bias** with the investors who do not face the said bias.

Source: Statistica,2020

	Average	P-value (T-test)	P – Value (F test)
Sample respondent suffer from bias	13.39	0.053	0.06
Sample respondent does not suffer from bias	9.67		

Analysis:

In addition, a statistically significant difference is observed in terms of the overconfidence bias.

Since both the sample group have a significantly different average value, the null hypothesis is rejected on the basis of the calculated p- value. From the table we can also confirm that respondents who show overconfidence bias have achieved a higher level of financial literacy than the sample which does not exhibit such behaviour.

According to the obtained results, the tendency to exhibit overconfidence bias in investment decision making significantly increases with a higher level of financial education; that means there is a positive relationship between the two factors.

This fact can be explained by a research report (Prasad, Ravi, & Sharma, 2021), when students (respondents) were asked to evaluate their skills in relation to the financial markets, they computed higher level of financial education as the reason for their confidence/overconfidence in investment decision making. We can anticipate greater interest in financial markets as a result of increased financial literacy, which may encourage students to have greater confidence in their own abilities.

Table 5: shows a comparison between investors who are affected by **illusion of control bias** with the investors who do not face the said bias.

Source: Statistica, 2020

	Average	P-value (T-test)	P – Value (F test)
Sample respondent suffer from bias	12.45	0.459	0.565
Sample respondent does not suffer from bias	13.33		

Analysis:

According to the results in this table, because of the illusion of control bias, the respondents appear to be influenced by their decision-making process. The level of financial literacy, on the other hand, does not appear to have an effect on the level. All of the respondents who have been tested, on the other hand, have a tendency to overestimate their abilities.

From a study by (Barberis & Thaler, 2018) which included only university students with similar levels of financial literacy and education. We can explain the above anomaly by the fact that the respondents when asked to make the assumption of the outcomes of the fairly familiar situations the response does not produce an effective outcome. Therefore, a test should be done between the financial literate and non financial literates to establish the relationship.

Table 6: shows a comparison between investors who are affected by **risk aversion bias** with the investors who do not face the said bias.

Source: Statistica, 2020

	Average	P-value (T-test)	P – Value (F test)
Sample respondent suffer from bias	13.04	0.741	0.4541
Sample respondent does not suffer from bias	13.30		

Analysis:

Based on the findings of the table above, we can infer that there is no significant difference between those who are subjected to this bias and their financial literacy level and those who are not. It is supported by the calculated p-value (0.7).

The inability in verifying the impact of financial literacy on this bias can be explained by the fact that respondents are supposed to be subjected to the same conditions to ensure better assessment of risk aversion bias. Assuming the that questionnaire/ survey on which the data is based did not consider this objectivity.

<u>SUMMARY AND DISCUSSION</u>:

Case 1:

Financial literacy (FL) has been used to determine the **financial behavior (FB**) in this study, which has been assessed using regression analysis, and the findings suggest that an individual's financial literacy can assess financial behavior. The research results are consistent with the findings of numerous studies performed by different scholars in different areas of the world. (Adams & Rau, 2011) highlighted that financial literacy can foresee an individual's financial behavior, specifically when it comes to saving for retirement.

In yet another study, (Van , M., Lusardi, A., & Allessei, 2002) explored the influence of financial literacy in making financial decisions as well as concluded that investors with lesser financial literacy are much less likely to invest in stocks than those with higher literacy levels.

Financial literacy doesn’t only aim to educate buyers on investment choices, as well as it helps them to on the abilities, mindset, and awareness of an individual, which is necessary to make rational investment decisions. It also impacts an individual's financial behavior, that also involves income, expenditure, saving, planning to invest, and borrowing potential of an individual (Nelson & Wambugu, 2008).

According to research teams, financial behaviors can be explained to a significant extent by an individual's financial literacy, that also results in fundamental knowledge and understanding that aid an investor roadmap to save and invest which will give them most benefit (Hilgert, Hogarth, & Beverly, 2003). As a result, the majority of research in the field had also found both correlations and cause and effect among financial knowledge and financial behavior.

While financial literacy is indeed a significant predictor of financial behavior, it should have been supported with financial self-efficacy. The purpose of financial is understanding and forming good and better financial behavior has indeed been intensively studied in the past, but it must be supported with financial self-efficacy, that has been addressed in a very few research. Financial behavior, when supported with financial self-efficacy, enhances the level of financial contentment in an individual (Rothwell , Khan, & Chern, 2016).

Case 2:

The objective of this study was to find and verify the relationship between the financial literacy levels and behavioral biases impacting investment decision making. On the basis of the results discussed above, financial literacy shows significant relationship with the following biases:

- Cognitive dissonance bias
- Availability bias
- Overconfidence bias

These three biases have been demonstrated to be statistically significant.

The other biases namely, Status quo bias, Illusion of control bias and Risk aversion bias failed to have been proven to be statistically significant.

According to the findings of the research, it has been demonstrated that the level of financial literacy can have an impact on certain behavioural biases. The negative results in the case of Status

quo bias, Illusion of control bias and Risk aversion bias is the result of the fault in the instrument used for the study. More concrete verification can be made if the technicalities for the respective bias are made during data collection.

IMPLICATIONS

Investing in the stock market can be a risky proposition due to a lack of financial literacy. However, financial self-efficacy must also be present for investors to make wise financial decisions in order to avoid losses. It was discovered that there is a moderately positive relationship between financial self-efficacy, financial literacy, and financial behaviour. Additionally, it was discovered that financial literacy has a statistically significant favorable impact on financial behaviour, which is mediated by financial self-efficacy. This study adds to the body of knowledge already available on the association between financial literacy, financial self-efficacy, and financial behaviour, which has been established previously. According to the findings, financial self-efficacy has a mediating role in financial behaviour and should be included in research evaluating financial behaviour or financial well-being of an individual investor, among other things. Due to the increase in the average life expectancy of an individual, it is increasingly vital to have a basic understanding of financial literacy as well as the confidence to make educated financial decisions, which will ultimately result in better financial behaviour. In order to avoid falling victim to fraudulent

activities and exploitation, individuals must take charge of their financial situation. When an investor has financial literacy, he or she is better able to understand the many financial goods and services that are offered in the financial market and to select the most appropriate choices for their needs. In addition to positively impacting individual financial well-being, a strong financial literate community will also contribute to the creation of a financially healthy society.

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