



A Study on Financial Literacy, Investors' Sentiment, and Financing Decisions with the Moderating Role of Investors' Experience: Evidence from Pakistan

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Abstract

This study ventures into uncharted territory by delving into the distinctive interplay between investor sentiments, financial literacy, and investment decisions, all while considering the moderating influence of investors' experience. To enhance the precision of our findings, the study incorporates age and education of investors as control variables in this intricate relationship. Therefore, empirical research is conducted to understand the behavioral pattern of individuals which can stabilize their investment decisions in an emerging market context such as Pakistan. In this study, we intertwine the theoretical perspective of cognitive psychology with investment decisions. To achieve this, three hypotheses are formulated to scrutinize the relationships among investor sentiments, financial literacy, investor experience, and investment decision-making. Data from 100 investors in Pakistan are collected for the analysis. SPSS 23.0 is used to compile analysis results by applying different techniques such as Factor Analysis, Simple & Multiple Regression, and moderating techniques. The outcomes of the study explain that H1 is accepted, which explores that there is a positive relationship between financial investment and investment decision. Similarly, H2 is also accepted and reports that there is a direct association between investor sentiments and investment decisions. Furthermore, H3 indicates a significant finding, suggesting partial moderation in the link between investor sentiment and investment decisions, while demonstrating full moderation in the relationship between financial literacy and investment decisions.

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BACKGROUND

Financial literacy and investor behavior have been examined for their impact on the investment decisions of investors. Extensive literature highlights the significance of investor behavior and financial literacy in making profitable investment decisions (Agarwal et al., 2015; Calcagno and Monticone, 2015; Faff, Mulino, and Chai, 2008; Hassan Al-Tamimi and Anood Bin Kalli, 2009). However, there remain unexplored areas concerning investor behavior, particularly biases and negative cognition related to investment decisions. In specific situations, investors exhibit irrational behavior, leading to incorrect judgments and distortions in perception that influence investment behavior.

Contrary to the traditional finance, behavioral finance, and financial theories that often assume individual investors to be perfectly rational, decision-making is recognized as a cognitive process involving the selection of the most appropriate option from various alternatives to achieve efficient results (Babajide and Adetiloye, 2012).

LITERATURE REVIEW

Financial literacy has initially been defined as “having knowledge, confidence, and skills to make reasonable financial decisions” (Altman 2012). Moreover, the profitable financial decision depends upon financial literacy while lacking financial knowledge (theories and practice) is associated with bad investing decisions. According to behavioral finance, investor sentiments greatly affect the investment decisions of individual investor. There is another important factor “financial literacy” which greatly influences investment choices. Recent literature highlighted the role of financial literacy as an important determinant of investment decisions which positively influences the investment decisions (Ahmed, Ramakrishnan, and Noreen 2017) Financial literacy is the ability to understand the basic financial mechanism, which leads to better investment decisions. However, every investor doesn't need to predict and understand those mechanisms and financial models in the same way without being biased (Sivaramakrishnan, Srivastava, and Rastogi 2017).

Investors, without financial literacy, tend to engage in high-rate interest mortgages while planning for retirement rather than investing in a profitable pension fund (Raut 2020). Financial literacy affects investment decisions in different ways such as choice of portfolio diversification, equity participation, avoiding high-interest debt (Akhtar and Das 2019). Moreover, financial literacy is important because it provides clues and strong signals, which can help to make better investment decisions. As mostly poor decisions and financial blunders come from the people with less financial knowledge (Baker and Wurgler 2006). Behavioral finance stresses the role of cognition and investor abilities to respond to certain market information, while, Behavioral Finance is totally against these theories and opposed the concept of perfect market efficiency due to psychological and emotional biases and their impact on investor investment decisions (Hirshleifer 2015).

The assumption of a rational man who maximizes his wealth is no more significant due to a lack of empirical pieces of evidence (De Bondt, Mayoral, and Vallelado 2013) Financial literacy is not always useful in making profitable investment decisions especially during an economic recession and extreme price shocks. The importance of financial literacy has observed to be reduced among the investors during recent outbreak of COVID-19 (Sharma 2021). The overall slump and extreme price movement led to negative returns of investments. During this pandemic, not only individual but also the institutional investors suffered heavy losses. So the new evidence from literature argues that the systemic risk influences the whole financial market and all the investors irrespective of their financial knowledge. On the other hand, excessive knowledge about the market situation restricts the investors to invest, especially the small ones. The investors feel reluctant to invest and more likely towards saving while knowing the upcoming events. These events include political, geopolitical, saturated labor market, macroeconomic, mergers, and acquisitions (Acker, Orujov, and Simpson 2018). Based on these arguments, we ground our first hypothesis:

H1. There is a significant negative relationship between Financial Literacy and Investment Decisions.

Researchers discuss that every investment statement would be based on investors' profile including financial literacy, age, experience, and education (Ahmed et al. 2021; Prasad, Kiran, and Sharma 2021). Moreover, an effective path would be taken to manage biases of an individual behavior. Along with managing these biases, a profitable investment also requires knowledge about finance and investment (Calcagno and Monticone 2015; Hassan Al-Tamimi and Anood Bin Kalli 2009). Therefore, the biased and irrational behavior of the investors influence the investing decisions. Moreover, the risk-averse (sentiment) investor are involved in trading with the safe securities i.e. with high return and low risk. In addition to this, several dimensions have been discussed including diversification. This diversity consists of the less risky assets in the portfolio. Along with this, female investors are more likely to invest in such assets, whether individual or in a portfolio. While male investors are reported to have a higher intention for investing in risky securities in both the short and long term than women (Baeckström, Marsh, and Silvester 2021).

Moreover, financial illiteracy is considered to be an important factor in investment decision-making and the selection of financial assets to construct a well-diversified portfolio (Shehzad, M. W., & Ali, M. 2022). The investment behavior is mainly associated with the level of financial literacy, while it also affects pension funds, mutual funds, savings, and retirement plans (Bellofatto, D'Hondt, and De Winne 2018). Some studies also spotlight the decision-making process being relevant to financial matters such as poor investment choices. The weak financial decisions lead to low returns with high risk or no growth in stocks. Furthermore, the poor financial practices, immature financial management, inability to make financial decisions according to the economic condition, and worse financial management behavior. Similarly, some multiple personality traits and sentiments affect investment decisions such as investor perception, cognitive biases, risk aversion, personality traits, and experiences while the market situation also affects these sentiments. Previous research on traditional finance argues that investors tend to make rational decisions in an efficient market as an ideal situation. However, an individual investor behaves rationally and prefers low risk than high risk against at given returns (Markowitz 1952). Although the investors are careful regarding the mean-variance analysis of an investment based on the financial theories but some studies explored opposite results.

According to advocates of behavioral finance, the investor has a set of psychological traits which are going to affect his rationality while making investment decisions and forced to engage in an irrational investment decisions (Yadav and Vishwakarma 2020). Intuitive reasoning, options, and judgments also play an important role while making quality investment decisions and often lead to irrational decisions. Interestingly many traditional financial theories completely ignore the importance of these biases and portray investors as rational decision-makers, who never go against the market signals (Brown and Cliff 2005). According to one of the most widely used theories of traditional finance; the efficient market hypothesis claims that the market is efficient even if some investors make irrational decisions (Fama 1988.). In a perfect market, investors always make rational decisions while ignoring their personality traits and biases (Nofsinger, Patterson, and Shank 2018). By getting a sufficient amount of market information

encourages the investors to take appropriate investing decisions. Based on these arguments, we ground the second hypothesis.

H2. There is a significant positive relationship between Investor Sentiments and Investment Decisions.

Gender, age, experiences, awareness, income level and specific qualification seem to change the level of financial literacy among individuals (Gonzalez-Igual, Corzo Santamaria, and Rua Vieites 2021). This study is a good effort to explore the relationship of investor sentiments and financial literacy on the investment decision of Pakistani Investors with the moderating role of experience. Lack of experience tends to weaken the decision making power and often leads to less innovative ideas. The behaviors of investors are frequently affected by their past experiences (Gonzalez-Igual et al. 2021). However, an experienced investor adopts risk-seeking behavior as per his prior experiences and often involves in risky investment (Ahmad and Shah 2020). Successful past investing experience increases confidence and often yields a high return. So the experience positively influences the investment decisions (Yang, Lin, and Yi 2017).

Moreover, prior studies have discussed the straight role of investor sentiment on investment decisions, paying less attention to the direct impact of financial literacy and proposed that moderating the role of individual experience is required to be discussed with financial literacy (Bellofatto et al. 2018; Isidore R and Christie 2019). There is a need to investigate the underlying mechanism of investor sentiments and financial literacy which greatly influence investor decisions. Moderation analysis is carried out to deepen the study by exploring the impact of investor experience on his decisions. This study is an effort to examine the relationship as healthy financial independence among individuals play important role in strengthening the financial markets and overall economic growth (Ahmad and Shah 2020). These arguments lead to ground our third hypothesis.

H3. Investor's Experience positively moderates the relationship between Investor Sentiment and Investment Decisions in the sense that higher Investors experience strengthens the negatively effects of Investor Sentiment on Investment Decisions

In this study, we incorporate the theoretical field of cognitive psychology with investment decisions making literature. Thus this study contributes by providing further insights into the investor biases, perceptions, and sentiments that moderated investors' experience. Moreover, the previous literature lacks to explore the combined effect of investor sentiment and financial literacy on investment decisions. Most of the studies have focused on surface-level attributes such as gender, age, income level ignoring the deep level attributes such as investor sentiments, and therefore empirical research is much needed to understand the behavioral pattern of individuals which can stabilize their investment decisions in an emerging market context such as Pakistan. So this study contributes to the relationship between investor' sentiments and financial literacy with the moderating effect of investor's experience that influence the investment decisions of Pakistani financial market. The behavior of an individual plays a vital role to understand the investor's psychology to make a financial decision (Kappal and Rastogi 2020). It presents various relevant factors including personality, gender, social aspects, attitudes, beliefs, and demographic elements for making an investment decision. Both the researchers and practitioners have proved the importance of behavioral finance to

meet the challenges of decision-making (Kumar et al. 2018). Behavioral finance drives to analyze the reasons and interpret the dependence of decision-making upon the measurement of values and availability of financial options in the market (Baker et al. 2018). The pioneering study on financial literacy indicates that the majority of households are unable to perform even basic calculations and hence, are lacking in financial knowledge (Bernheim 1995). In addition, the investors with financial literacy either in school or the workplace tend to save more and choose profitable investment options (Bernheim et al. 2001; Bernheim and Garrett 2003). Similarly, investors with low financial literacy are less concerned about their future (Lusardi and Mitchell 2007; Stango and Zinman 2007). In addition, bad investment decisions are quite common among the elderly, and young savers with less financial literacy. A module was devised on the financial literacy of residents of the USA through which financial knowledge of inflation, interest, and risk diversification. The outcomes of the study revealed that financial literacy is needed among several clusters such as women, old age, and illiterate persons (Hilgert and Hogarth 2002; Lusardi and Mitchell 2007).

In developed countries including Japan, Australia, and the United Kingdom financial literacy is considered as a common attribute of investors (Lusardi and Mitchell 2007). There is scarce literature that presents and explores the relationship between financial literacy and financial decisions. Recent literature emphasizes financial literacy as an important element to make favorable investment decisions (Ahmed et al. 2017). Moreover, investors, without financial literacy, tend to plan for retirement rather than investment (Raut 2020). Research depicts that the educated societies are somewhat more concerned about the future and their behavior toward money spending is more conscious and vigilant. Education also plays a significant role to affect the decision of an individual (Kumar et al. 2018). Literacy rate also becomes a cause of overconfidence bias (Mishra and Metilda 2015). Financial decisions tend to change as the sentiments of an individual varies. Humans always don't make cogent financial decisions (Baker et al. 2018; Chavali and Mohanraj 2016; Kumar et. al. 2018; Pompian 2006).

Recent literature is evident that the behavior of an individual is affected by several biases and heuristics. Emotional and cognitive factors affected an individual during a personal investment process and hence, biases also play a crucial role (Godoi et al. 2005). Cognitive bias may develop from wrong perceptions, while availability bias happens when an investor chooses the most available and prevalent financial options than the statistically verified one (Pompian 2006). While overconfidence bias occurs when an investor becomes overconfident and relies more on cognitive abilities than a rational approach (Barber and Odean 2008). Furthermore, the literacy rate also becomes a cause of overconfidence bias. More experienced investors consider that they are more attentive and able to draw sound decisions (Mishra and Metilda 2015). Self-attribution bias occurs when an investor takes the credit for profits and blames external factors for losses (Mishra and Metilda 2015). An investor has a negative impact between overconfidence and underdog bias (Combrink and Lew 2020). It is, therefore, in decision making the predictability and rationality is not attained (Kahneman 2011) and biases are dependable (Barber and Odean 2008; Rabin and Thaler 2001). Investor's experience determines the decision-making process and trading patterns. Furthermore, experience is a useful tool as well as a dynamic element to mold a person into a rational investor (Chen et al. 2004). In addition, experienced investors embrace fewer mistakes during

financial decision-making (Chen et al. 2004). While it is claimed that experience corroborates the investors to reduce uncertainties and biases to make rational decisions (Welsh 2013). Subsequently, measuring the behavior of an investor during the financial decision is important to determine the perception and is significantly related to understanding the related interest with the stock market (Yang et al. 2020). The rest of the document is organized as follows. Section 3 indicates the data and methodology, while section 4 presents and interprets the results. In the end, section 5 concludes it and focuses on policy implications.

METHODOLOGY

This part of the study explains the methods that are employed for data collection and data analysis. This study involves the behavior of individual investors from the financial sector of Pakistan. To address our research question i.e. out the role of financial literacy and investors' sentiments on investment decisions, while investor experience plays a mediating role in this relationship. The data has been collected from the financial sector of Pakistan, The Bank of Punjab, to avoid the issues of understanding the terms of financial literacy and explains the individual investment decision. A descriptive research design has been selected, hence there are many definitions of a research design (Balaniuk and Borges-Andrade 2020). However, no single definition covers all the aspects of a research design. It can be defined as a fact-finding strategy that has been generated from cross-sectional studies. Therefore, the properties and features of the variables also influence the definition of descriptive research design (Jaunatre 2021).

However, there found some restrictions about this strategy as face problems information of results regarding knowledge and solutions. Although this strategy goes beyond the method of data collection yet it involves classification, measures, data analysis, and interpretation of the results (Saleh 2021). Furthermore, the financial institution is the targeted population that covers all the aspects of financial literacy and investment designs. The main reason to focus financial sector is that the on-job employees have extensive knowledge about finance and investment opportunities. A structured questionnaire has been floated to the head office of BOP and gathered the results from 100 respondents. Due to COVID-19, a restricted number of employees were available. The selected employees were provided the questionnaire to fill in without any difficulty to understand the terms and questions. It made sure that the employees can answer each question to avoid any problem in our data analysis. Our questionnaire consists of closed-ended questions and set ate six Likert scales to quantify and standardize the responses from this research.

This scale explains the attitudes and behavior of the employees. The questionnaire has been incorporated into two sections, first section consists of the questions to enquire about the respondent's background, while the second section consists of the information regarding financial literacy and market information (investment decisions and behavior towards that decision). After collecting the primary data, it has been classified according to the variables under study. Statistical package for social scientist (SPSS) has been used for data analysis that has generated frequency tables from the respondents for relative importance and weights for each variable, inferential and descriptive statistics.

The coding of data enables the responses to be distributed into various categories according to the Likert scale. Moreover, the internal consistency of these multi-item scales has been tested by applying Cronbach's alpha. Cronbach's Alpha Test is used to check the reliability of measurement, internal consistency, for continuous variables format (for example, 6-point Likert measurements). It consists of a statistical summary for explaining the consistency of a sample across a set of variables or variables (Kim et al. 2018). It helps to establish the reliability of individuals' responses for measurement. . Cronbach's alpha is usually applied in behavioral and social sciences researches to test the reliability. The Cronbach's alpha is observed to be suitable for this type of research due to the 6 Likert scale measurements of the questionnaire (Giao, Vuong, Huan, et al. 2020). Cronbach's alpha is suggested to be at least 0.7 for making a measurement reliable (Giao, Vuong, and Tung 2020).

However, a value over 0.6 is also acceptable by many statisticians (De Clercq et al. 2021; Vuong et al. 2021). Factor analysis was employed to test the reliability of data at multi-item scales (Shrestha 2021). The analysis includes Descriptive statistics to summarize the data with frequencies and frequencies. Reliability and Validity have been tested being a central issue in all measurements. Both these are concerned with the concrete measures and connectedness of the constructs (Albrecht and Marty 2020; Chordiya, Sabharwal, and Goodman 2017). Finally, the OLS regression technique (Dewi and Piartrini 2019.; Schreiber 2021) has been employed to find a linear relationship between financial literacy, investors' sentiments, and investing decisions, while two relationships have been developed by mediating the role of investor experience. The OLS regression equation as follows:

$$\text{Investment Decisions} = a + \beta_0 \text{ Financial Literacy} + \beta_1 \text{ Investors' sentiments} + \epsilon_t$$

Where a is constant, β_0 and β_1 are coefficients of the regression model.

This chapter consists of the results and research findings and will discuss the results which will get from various analysis techniques. SPSS 23.0 is used to compile analysis results by applying different techniques like Validity & Reliability, Factor Analysis, Descriptive Statistics, Simple Regression, Multiple Regression and mediating techniques. On the basis of the analysis, results and discussion will be the part of this chapter.

Frequency Distribution of the Respondents

Table 1.
Gender of the Respondents

	Frequency	Percent	Valid Percent
Male	84	84.0	84.0
Female	16	16.0	16.0
Total	100	100	100.0

The above cited table No. 1 displays the frequency distribution of the gender of the respondents. There are total 100 respondents were selected for data collection and 84 respondents are male and its percentage is 84% of the total chunk and 16 female were took part in the data collection for this study and it is 16% of the total respondents.

Table 2.**Age group of the Respondents**

	Frequency	Percent	Valid Percent
Less than 30 years	3	3.0	3.0
31-40 years	24	24.0	24.0
41-50 years	73	73.0	73.0
Total	100	100.0	100.0

The above cited table No. 2 reveals the frequency distribution of the age of the respondents. There are total 100 respondents were selected for data collection and 3 respondents are less than 30 years old, the age of 24 respondents lie between 31-40 years of age range. While, the age of majority of our sample lie between 42-50 years.

Table 3.**Marital Status of the Respondents**

	Frequency	Percent	Valid Percent
Married	93	93.0	93.0
Divorced	7	7.0	7.0
Total	100	100.0	100.0

The above cited table No. 3 displays the frequency distribution of the marital status of the respondents. There are total 100 respondents were selected for data collection and 93 respondents are married and its percentage is 93% of the total chunk and 3 are divorced carrying 7% of total sample.

Table 4.**Education of the Respondents**

	Frequency	Percent	Valid Percent
Other College Education	2	2.0	2.0
Diploma	27	27.0	27.0
Degree Certificate	69	69.0	69.0
Postgraduate/PhD	2	2.0	2.0
Total	100	100.0	100.0

The above cited table No. 4 displays the frequency distribution of the education of the respondents. There are total 100 respondents were selected for data collection and 2 (2%) respondents have other college education. Out of the sample, 27 (27%) respondents have diploma, 69(69%) with degree certificate and only 2(2%) respondents have postgraduate/PhD degree.

Table 5.**Employment Nature of the Respondents**

	Frequency	Percent	Valid Percent
Formal Employment	62	62.0	62.0
Both Formal and Self Employment	38	38.0	38.0
Total	100	100.0	100.0

The above cited table No. 5 displays the frequency distribution of the employment nature of the respondents. There are total 100 respondents were selected for data collection

and 62 respondents have a formal employment and 38 respondents have both formal and self-employment.

Table 6.
Monthly Income of the Respondents

	Frequency	Percent	Valid Percent
20000-50000	15	15.0	15.0
50000-100000	53	53.0	53.0
100000-200000	26	26.0	26.0
More than 2000000	6	6.0	6.0
Total	100	100.0	100.0

The above cited table No. 6 displays the frequency distribution of the monthly income of the respondents. There are total 100 respondents were selected for data collection and monthly income of 15 respondents lie between 20000-50000, monthly income of 53 respondents lie between 50000-100000, monthly income of 26 respondents lie between 100000-200000, monthly income of 6 respondents is more than 200000.

Table 7.
Market Sector Participation of the Respondents

	Frequency	Percent	Valid Percent
Finance & Investment	29	29.0	29.0
Alternative Market Segment	43	43.0	43.0
Industrial & Allied Sector	28	28.0	28.0
Total	100	100.0	100.0

The above cited table No. 7 displays the frequency distribution of the market of the respondents. There are total 100 respondents were selected for data collection 29 respondents are found to be involved in working for finance and investment, 43 respondents are working in alternative market segment, while 28 respondents are working in industrial and allied sector.

Table 8.
Kind of Investor

	Frequency	Percent	Valid Percent
Speculative (Short-term)	97	97.0	97.0
Capital Long (Long-term)	3	3.0	3.0
Total	100	100.0	100.0

The above cited table No. 6 displays the frequency distribution of the kind of investors. There are total 100 respondents were selected for data collection and 97 respondents are speculative/short-term investors while only three respondents are long term investors.

Table 9.
Attended Stock Exchange

	Frequency	Percent	Valid Percent
Yes	84	84.0	84.0
No	16	16.0	16.0
Total	100	100.0	100.0

The above cited table No. 9 displays the frequency distribution of the workshops or any other orientation for stock market trading. There are total 100 respondents were selected for data collection out of which, 84 respondent have knowledge and have attended workshops regarding stock market trading while 16 respondents do not attend any workshop in this regard.

Analysis of Descriptive

The basic aim of the descriptive statistics is to measure the slop of the responses. For this purpose, mean and standard deviation (S.D) was obtained of the independent, mediating and dependent variables of the study. The results are shown in the below cited table 10:-

Table 10.

Descriptive Statistics

Variables	N	Mean	Std. Deviation
Investor Sentiments	100	3.280	2.583
Financial Literacy	100	2.898	3.482
Investor Experience	100	3.343	2.657
Investment Decision	100	2.982	3.967

The table No. 10 describes the mean values and standard deviation of the variables. All three variables (IV, MV and DV) measures on 6 points Likert scale.

The results of the descriptive statistics indicate that majority of the respondents agree about the statements of the variable "Investor Sentiments" as the mean values are 3.280 and 2.583 is the value of the standard deviation. For the variable FL, there value of means is 2.898 which indicate that most of the respondents were neutral with statements and the 3.482 is value of SD which means data is dispersed from the mean value. IE has the mean value is 3.343 and standard deviation is 2.657 which means that respondents were neutral with the questions asked them through research questionnaire and the data is dispersed 2.657 from the mean value. Lastly, mean value of ID is 2.982 which is close to 3.0 which indicates that the respondents were not agree or disagree with the statements of the ID and the S.D value is 3.967.

Reliability of the Data

Cronbach's Alpha is used to check the reliability of the data which was collected from the respondents through structured questionnaire by using Statistical Package for Social Sciences (SPSS). The value of Cronbach's Alpha is 0.795 which is good as the value of Cronbach's Alpha is acceptable between the range of 0.5 to 0.6 (Nunnally, 2010).

Table 11.

Reliability of the Data

Variables	No. of Items	Cronbach's Alpha
Investor Sentiments	4	0.470
Financial Literacy	4	0.700
Investor Experience	3	0.545
Investment Decision	5	0.692

The above table shows the reliability analysis of each variable separately and in the last overall reliability analysis has also been calculated. For Investor Sentiments (IS), the

reliability value is 0.470 which is very close to 0.5. For Financial Literacy (FL), the Cronbach's Alpha value is 0.700 which is good and greater than 0.6. For Investor Experience (IE), the value is 0.545 which is within the acceptable range i.e. 0.5-0.6 and lastly the value of reliability test for Investment Decision (ID) is 0.692 which greater than 0.6. The results of the Cronbach's Alpha test show that the data is reliable.

Correlation Matrix of the variables

Correlation matrix is used to check the relationship of the variables used in the study whether they are correlated or not. It is a most common method to check relationship. all the variables of the study are positively correlated with each, and the results of the correlation test are mentioned in the table 12.

The above mention table describes the results of the person correlation test. The value of correlation of Investor Sentiments (IS) with financial Literacy (FL) 0.439** with significant value 0.000 which means that the relationship between the variables is positive and significant as the p-value is less than 0.05 and the correlation value is positive. The value of correlation between IS and IE is 0.363** and the p-value is 0.000 which states the relationship is positive but week in nature and the p-value is less than 0.05 which indicates that the relationship is significant. The correlation value of IS with ID is .477** and the p-value is 0.000 which indicates the relationship between variables is moderate and significant.

Table 12.
Correlation Matrix of the variables

		Investor Sentiments	Financial Literacy	Investor Experience	Investment Decision
Investor Sentiments	Pearson Correlation	1			
	Sig. (2-tailed)				
Financial Literacy	Pearson Correlation	.439**	1		
	Sig. (2-tailed)	.000			
Investor Experience	Pearson Correlation	.363**	.293**	1	
	Sig. (2-tailed)	.000	.003		
Investment Decision	Pearson Correlation	.477**	.694**	.324**	1
	Sig. (2-tailed)	.000	.000	.001	

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

Multi Co-linearity (variance inflation factor, Tolerance, Correlation)

Correlation value of all the variables are below 0.7 which indicates that multi-collinearity does not exist between the variables and p-value of person two tailed was positive and significant as it is less than <0.05 i.e. 0.000 which is confirming that there is a relationship exist among variables in the correlation table. The multi-collinearity only exists when the Pearson two tailed value is equal to 0.8 or greater than >0.8.

Normality of Data (Skewness & Kurtosis)

To check the normality of the data, skewness and kurtosis technique apply by using descriptive statistics in the SPSS. If the value of skewness falls between -3 to +3 and the value of the kurtosis fall between -1 to +1 then we can say that our data is normal.

Table 13.
Normality of Data

Variables	Skewness	Kurtosis
Investor Sentiments	-.774	.738
Financial Literacy	.087	-.524
Investor Experience	-.587	.092
Investment Decision	-.141	-.430

The values of the skewness and kurtosis of the IS variable are -.774 and .738 respectively. FL variable has the value of skewness and kurtosis 0.087 and -.524 and for IE the values are -0.587 and 0.092 for skewness and kurtosis respectively and for ID the values are -.141 and -.430. All the values lie between the accepted ranges of skewness and kurtosis; we can say that our data is normal.

Instrument Reliability

The reliability of the research instrument used in the study for data collection is tested by applying Cronbach's Alpha (α) technique in SPSS software. Internal consistency of the items is checked by the using evaluating the value of the Cronbach's Alpha (α). According to George and Mallery (2003), the measuring instrument is excellent or reliable if the value of the Cronbach's Alpha value is near to "1.0" whether the value equal to "0" describes the inconsistent measuring instrument. In our data set two variables have the value of Cronbach's Alpha greater than 0.7 and one has 0.470 which is very close to 0.5 and acceptable.

Content Validity

The content validity was also checked including spelling of words and structure of questionnaire. In the panel were included faculty members and seniors who were having expertise for research in the area of management sciences. The recommended changes were improved to develop effective questionnaire before data collection from the target population of the study.

HYPOTHESES TESTING

Regression Analysis

To test the effects of independent variables on dependent variables, linear regression techniques were used by using the SPSS. Findings are as under: -

Table 14.
Investor Sentiments (IS) and Investment Decision (ID)

Model	R	R Square	β	p-value	ANOVA
1	.477	0.228	0.733	0.000	0.000 ^b

Linear regression is used to test the hypothesis in which R assumption is used to determine the linear auto correlation between the IS and ID. R value is 0.477 which is <0.5 and very close to 0.5 which indicates that the linear relationship between IS and ID is moderate. The value of R-square is about 0.228 which means that ID (DV) is 28.8% is explained by

the IS (IV). β -value is equal to 0.733 which shows that if we increase one unit in the independent variable (IS) then -0.733 unit will change in dependent variable (ID). Lastly, p-value is equal to 0.000 which is less than 0.05 and ANOVA value is equal to 0.000 which means that our overall model is good. The value indicates that the relationship of IS and ID is significant which means that if any change occurs in the IS then the ID will change positively. Hence, our hypothesis is accepted that Investor sentiments (IS) have positive relationship between Investment Decision (ID).

Table 15.
Financial Literacy (FL) and Investment Decision (ID)

Model	R	R Square	β	p-value	ANOVA
1	.694	0.531	1.097	0.000	0.000 ^b

Linear regression is used to test the hypothesis in which R assumption is used to determine the linear auto correlation between the FL and ID. R value is 0.694 which is >0.5 and indicates that the linear relationship between FL and ID is good. The value of R-square is about 0.531 which means that ID (DV) is 53.1% is explained by the FL (IV). β -value is equal to 1.097 which shows that if we increase one unit in the independent variable (FL) then 1.097 unit will change in dependent variable (ID). Lastly, p-value is equal to 0.000 which is less than 0.05 and ANOVA value is equal to 0.000 which means that our overall model is good. The value indicates that the relationship of FL and ID is significant which means that if any change occurs in the FL then the ID will change positively. Hence, our hypothesis is accepted that Financial Investment (FL) has positive relationship between Investment Decision (ID).

MODERATING ANALYSIS

Moderating effects of Investor experience on Investor sentiments and investment decision

To check the moderating effects of IE on the relationship IS and ID, linear regression analysis was used.

Table 16.
Moderating effects IE on IS and ID

Model	R	R Square	R Square Change	Sig.	Un-standardized β	DW value
IS $\rightarrow$ ID	0.477	0.228	0.228	0.000	.733	1.833
IE					.636	
IS $\rightarrow$ ID	0.504	0.254	0.026	0.000	0.260	1.798

The above mentioned table describes that when we regress the IS with ID, it 22.8% explain the dependent variable (ID) and 25.4% variability with significant p-value which is 0.000. thus it is proving our hypothesis that there is moderating effect of IE on the relationship of IS and ID. Model 2 indicates that if we increase one unit in IS then there is a 0.636 units

change and if we increase one unit in IE than there is a 0.260 unit change in the ID. The DW value is 1.798 which indicates that there is no any autocorrelation exist in the model. The p-value of the both models are less than 0.05 which indicates that there is partial moderation as the relationship between IS and ID is still significant.

Moderating effects of Investor experience on Financial Literacy and investment decision

To check the moderating effects of IE on the relationship IS and ID, linear regression analysis was used.

Table 17.
Moderating effects IE on FL and ID

Model	R	R Square	R Square Change	Sig.	Un-standardized β	DW value
IS→ID	0.694	0.531	0.531	0.000	1.097	2.028
IE						
FL $\xrightarrow{IE}$ ID	0.701	0.552	0.021	0.107	1.081	2.035
					0.069	

The above mentioned table describes that when we regress the IS with ID, it 53.1% explain the dependent variable (ID) and 55.2% variability with significant p-value which is 0.000. Thus it is proving our hypothesis that there is moderating effect of IE on the relationship of FL and ID. Model 2 indicates that if we increase one unit in FL then there is a 1.081 units change and if we increase one unit in IE than there is a 0.069 unit change in the ID. The DW value is 2.035 which indicates that there is no any autocorrelation exist in the model. The p-value of the second model is 0.107 which is greater than 0.05 which indicates that there is full moderation as the relationship between FL and ID is still significant.

DISCUSSION

Financial literacy affect the decisions of the investors (Hassan Al-Tamimi and Anood Bin Kalli 2009; Hwang, Ryu, and Jeong 2021). The investors with limited knowledge about investment, stock market and trading often expose to risky investment decisions and somewhat suffer losses (Agarwal et al. 2015; Calcagno and Monticone 2015). On contrary, as this study exposes that investors with knowledge, diversify the portfolio and hedge the risk. The existing knowledge also support these arguments (Ahmed et al. 2021; Altman 2012; Bellofatto et al. 2018; Prasad et al. 2021). There are some recommendations for both researchers and policymakers. Empirical analysis of this study provides a base for scholars through which financial literacy, investment experience, investor sentiments, and investment decision making explain that financial literacy along with moderation of investor experience significantly changes the investor behavior. Secondly, policymakers and organizational managers are suggested to assess and understand financial literacy before making an investment decision or portfolio diversification (Ahmed et al. 2017; Raut 2020). Thirdly, the outcomes of this study can be meaningful for executives of financial institutions such as banks as they are recommended by the findings of this paper to target

such clients, who are more financially literate. In addition, managers and policymakers are suggested to assess the financial literacy of the general public so that they can revise and draw such investment policies that can serve the nation in a superior way. There are some limitations of this study and can be elaborated in the future. For future research, various other variables such as personality traits, spending patterns, and family background can be taken along with financial literacy and investment decisions. Furthermore, other behavioral biases can be used to explore the financial literacy with decision making so that the behavior of an investor may be efficiently estimated.

CONCLUSION

This study stands out in its exploration of the intricate dynamics between investor sentiments, financial literacy, and investment decisions, incorporating the moderating influence of experience. In this nuanced relationship, age and education of investors serve as control variables, elevating the precision of results. While existing literature has often focused on surface-level characteristics like gender, age, and income, this research delves deeper into attributes such as investor sentiments (Ahmad and Shah, 2020; Sabir, Mohammad, and Shahar, 2019; Saleh, 2021; Sivaramakrishnan et al., 2017). Through empirical research, it seeks to unravel the behavioral patterns of individuals, shedding light on factors that can stabilize investment decisions in the distinctive context of an emerging market like Pakistan. In this study, we incorporate the theoretical perspective of cognitive psychology with investment decisions.

Thus this study contributes to the literature by providing further insights into the investor biases, perceptions, and sentiments that moderate investors' experience (Ahmed et al. 2021). For this purpose, three hypotheses are drawn to analyze investor sentiments, financial literacy, investor experience, and investment decision-making by collecting investing data from 100 investors in Pakistan. SPSS 23.0 is used to compile analysis results by applying different techniques such as Factor Analysis, Simple & Multiple Regression, and moderating techniques. The outcomes of the study explain that H1 is accepted, which explores that there is a positive relationship between financial investment and investment decision. Similarly, H2 is also accepted and reports that there is a direct association between investor sentiments and investment decisions. In addition, H3 significantly presents that there is partial moderation in the connection between investor sentiment and investment decision while embraces full moderation in the relationship between financial literacy and investment decision.

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