Journal of Management Science Research Review
https://jmsrr.com/index.php/Journal/about

Volume. 4 Issue No. 2 (2025)

Online ISSN: 3006-2047
Print ISSN: 3006-2039

DO EMOTIONS PLAY ANY ROLE TO CONTROL THE BEHAVIORAL BIASES OF INVESTORS?

Beenish Shabbir*
Lecturer, Department of Business Administration, University of Poonch, Rawalakot, Azad Kashmir, Pakistan

Dr. Nyela Ashraf
Assistant Professor, Department of Business Administration, University of Poonch, Rawalakot, Azad Kashmir, Pakistan

Dr. Jamila Khurshid
Assistant Professor, Department of Business Administration, University of Poonch, Rawalakot, Azad Kashmir, Pakistan

Zarlakhta Babar
PhD Scholar, Department of Business Administration, University of Poonch, Rawalakot, Azad Kashmir, Pakistan

Abstract

Behavioral finance states that investor's investment decisions are influenced by psychological factors like mood, emotion and cognitive biases. Emotions can get in the way of making prudent financial decisions. It is human nature that they react differently when they are in a different state of emotion. Under such dynamics, this study investigated whether emotions can help to reduce behavioral biases of investors by focusing on overconfidence and illusion of control and by measuring moderating role of emotions on the relationship of overconfidence, illusion of control and investment decisions. Data was collected from 200 investors who directly invest at Islamabad stock exchange. After analyzing the data collected from these investors it is observed that two biases overconfidence and illusion of control have positive and significant impact on investment decisions. Emotions have significant and positive relationship with investment decisions. While checking the moderating role of emotions the study reveals that emotions significantly and positively moderate the relationship of overconfidence bias and investment decisions. The emotions insignificantly moderate the relationship of illusion of control and investment decisions. This study provide the clear understanding of

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

prospects that how investors deviate from rationality while buying and selling of stocks and make biased decisions being influenced by emotions.

Introduction

The Efficient Market Hypothesis (EMH) assumes that financial markets have all public information and stock prices reflect all the related information. The conventional finance emphasis on EMH and it is considered the best model for explaining the investors' behaviour. It seems that investors will never get abnormal returns because investors invest in stocks after fully analysing all the available information (Fama, 1970). Standard finance measures the rationality of investors through different models whish are the Markowitz portfolio principles, arbitrage principles of Modigliani and Miller, capital asset pricing theory of Sharpe and option pricing theory of Black, Sholes and Merton (Statman, 1999). All these theories believe that investors always make rational and unbiased decisions as they always update and adjust their decisions according to upcoming information. But Nofsinger (2001) argued that if investors always act rationally make unbiased decisions based on the publically available market information and markets are also efficient then what are the reasons that huge financial crises and global recession happened in past. The professional economists failed to find out the reasons and causes of these crises and also the methods to handle such situations.

These professionals are unable to find out the answer of the question that why investors do not act rationally? To find out the answer of these questions behavioural researchers, Amos Tversky & Daniel Kahneman (1974) gave the basic roadmap. They introduced the application of psychology in finance and called it as behavioral finance. Barberis & Thaler (2003) have explained the direction of behavioral finance to understand that how investors make their choices while selecting stocks for investing. Behavioral finance describes that the emotional and cognitive biases of an investor force him to make irrational and worst decisions. Moreover, when investors are badly

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

informed they are prone to biasness as psychological aspects induce them to make decisions in their own way. In such a confusing and uncertain condition people take decisions by following the suggestions of professional investors. These expert investors although have full information about investment but still they deviates from rationality because they also face the problems of poorly available updated market information (Huei Wen Lin 2011).

Many researchers tried to explain those factors which compel the individuals to act irrationally. Huckle (2005) identified that investment decisions are influenced by human psychology. He also explained the reasons that why, how and when people deviates from rationality. Most investors make inconsistent choices. Their abilities to think in a rational way are affected by their predispositions and make them biased. Tversky and Kahneman (1992) stated that behavioral finance has many economic models which are very helpful when applied but it is also a fact that good or bad feelings and mental short cuts also influence investors. Individuals may be suffer from different types of behavioral biases, which lead them to cognitive error. It has been observed that investors can make wrong choices when they face uncertain situations (Oliver M. Rui, 2007). Pompian (2006) wrote a book "Behavioral Finance and Wealth Management" in which he stated that people make different choices on the basis of their underlying feelings resulting in worst biased decisions. He described almost twenty different behavioral biases that make an investor biased and irrational. A bias is defined as a predisposition toward an error (Shefrin, 2007). Under such theoretical underpinnings, this study tries to explain how behavioral biases affects investment decisions by shedding light on overconfidence and illusion of control bias in detail and evaluating the role of emotions in handling such behavioral predispositions while making investment decisions.

Literature Review

Behavioral finance challenges the efficient market hypothesis and emphasizes on how investors respond to the freely available information. On the other

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

hand, theories of traditional finance assume that all individuals are rational, so they can control the ups and downs of market. Investors have many choices e.g., stocks and debentures for investing their money. Investment in these securities requires skills and knowledge as many investors want to outperform the market. But the Efficient Market Hypothesis (EMH) proposes that no one can outperform the market, because all investors are fully informed (Shah, 2012). The Efficient Market Hypothesis (EMH) and Capital Asset Pricing Model (CAPM) suggest that investors always make rational decisions. These theories gain a lot of importance for prediction and explanation of many events.

However, evidences have been found for inadequacy of rational attitude. Investors did not behave according to the basic concept of rationality as they are humans and cognitive factors involve during the process of investment decision making (Debondt & Thaler,1995). The proponents of behavioral finance explain the irrational characteristics of humans. There are many events where decisions of investors are influenced by psychological and emotional factors. The cognitive characteristics of investors make them biased. So, behavioral finance can explain the relationship between behavioral biases, risk taking attitude, emotions and investment decisions in a better way. Behavioral finance is called field of finance that recommends psychological models to describe stock exchange anomalies. The psychological studies propose that fear of deviation from rationality compel investors to make bad buying and selling (Curren, 1987). Such deviations from practical experiences provide the basic principles of integration of cognitive factors in describing the investor's behavior and are the main focal point of this study.

How Overconfidence Bias Impact Investment Decisions

The success and failure of an investment depends on the specific behavioral dynamics of investors who will finalize the decision about purchasing the stocks because an investor makes decisions on the basis of his predispositions. The behavior of an investor towards the stock market is considered a factor of

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

psychological and social impacts (Hunjra et al, 2013). The decision makers being controlled by their thoughts while making investment decisions show deviance from rationality make prejudgments and make biased decisions because their mental thoughts reorganize their attitude towards that scenario (Rizzi, 2008). This research aims to investigate those biases which force investors to make irrational decisions; one of which is called overconfidence bias. The overconfidence bias is analyzed when individual's subjective belief in their own abilities is greater than their authentic performance (Lowenstein, 2000). The overconfidence bias has been measured for the first time by (Alpert & Raffia, 1982). They analyzed that overconfidence explains two main processes, one is extreme belief of a person in his own abilities and second is exaggeration of knowledge that he actually has.

An investor who overestimates his abilities block many new options for him as he is more confident about his knowledge and will become over confident regarding his desirable outcomes because he is sure about his decision which will result in generation of his desirable future cash flows (Bazerman & Moore 2009). An overconfident individual make use of his distinguished greater capability to get large returns, so they underestimate the risk related with the stock investing. A vast literature is available in the field of psychology shows that human beings are usually overconfident (Odean.1999). He further analyzed that overconfidence is an individual's faith that one knows more than one really does. There are many theoretical models which have been developed on the basis of assumptions that investors are overconfident (Benos, 1998). Peng & Xong (2006) further explained that these theories believe that investors are miscalibrated or overconfident about the accuracy of their knowledge as the overconfident models forecast that investors will trade too much. A large number of empirical studies support these assumptions that the investors who trade excessively often show worst performance (Barber & Odean, 2001).

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Daniel (2000) identified that overconfident investors make fool themselves about their abilities and skills. Such investors overvalue their talent and skills and think that they can make right investment decisions by right valuation of stocks. Showing such biased behavior investors take high risk as they pay taxes and commission and are more susceptible to huge losses (Nofsinger, 2002). Psychological biases such as overconfidence influence on diverse stages of investors' decisions because different stages of investment need diversity in abilities, talent and skills (Paluch, 2011). Odean (1998) described that investors overvalue their capabilities and unrealistically predict about future affairs. They make positive self-evaluations and exaggerate the accuracy of their own information. Clarke & Statman (2000) stated that people usually overestimate their judgment skills in different situations of everyday life and show same attitude in investment arena. They are too much certain about the precision of their own judgment. When they critically observe the situation the precision of their analyses does not increase but their confidence level does increase as they consider that the quality of information and its quantity both are equal. Such types of beliefs lead investors towards investment errors and as a result they bear losses (Pompian, 2006).

Barber & Odean (2001) described that when investors search for such kind of information which confirm their previous beliefs, it will probably increase the overconfidence of investors. The past literature proposed that those investors who overvalue the accuracy of information or undervalue the volatility of uncertain events in financial markets misunderstand the difference among the choices of different investors, which in turn leads them to unnecessary buying and selling of stocks results into the poor performance in the future (Variance, 1989). Overconfidence bias occurs when human beings are not able to integrate the ambiguity of their understanding and knowledge adequately (Kahneman &Tversky, 1973). So overconfident decision makers take their suppositions as reality and think that their actions of picking stocks are not risky. Hence, this bias results in lowering the insight

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

level of investors about the riskiness strategy (Barnes, 1984). Dass, Mass & Patgiri (2008) suggested that cognitive and external factors built behavior of individuals which lead investors towards the strong investment biases such as overconfidence which interfere the whole financial market.

The above description shows that overconfidence bias has a strong influence on investment decisions, which lead to the hypothesis;

H1: There is a significant relationship between overconfidence bias and investment decision.

How Illusion Of Control Bias Impact Investment Decisions

Pompian (2006) defined illusion of control as the propensity of all individuals to believe that they can control the future outcome when in reality they cannot. People with illusion of control bias think that they can control over their environment than they actually can't. Breinholt & Dalryample (2004) stated that illusion of control is determined by the connection of two common attributes, one is the desire for control. They explained the second attribute that people usually believe in luck as they think that their luck can control any uncertain situation. Illusion of control can be explained as the expectation of individual success chances unsuitably superior than the intent likelihood would be justified (Langer, 1975). Illusion of control is a condition in which investors overestimate their control on the outcome produced by uncontrollable events.

Cachon (2000) proposed that illusion of control is the natural ability of a person to overestimate negative information and underestimate positive information. They think that they have the skills to control the future so they buy or sell stocks according to the states of their minds. Alloy & Abramson (1979) argued that people usually treat irrational decisions as if they were rational, therefore they overestimate their own control revealing the bias which is called illusion of control. They found that individuals are more capable to be tempting into believing that they have more control even when there is no control at all. The decisions makers suffer from illusion of control

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

bias usually misjudge the market value of stocks (Hayward & Hambrick, 1997). They usually misperceive prices of stocks and suffer from losses because of irrational decision making. Human beings have more perceived control in those circumstances which are uncontrollable. This situation raise a question what will happen when individuals feel that they have high control on any situation that can't be exercised in realty (Skinner, 1996).

The Cognitive Dissonance Theory provides arguments whish are very helpful in answering of this question. This theory states that all human beings search for the stability among their beliefs and opinions and a bias will happen in the case of inconsistency among these beliefs and observations (Festinger, 1957). Individuals who are not able to exert their influence for controlling an uncertain event can never control, although they have full confidence that they can. However, only those individuals can control the prevailing condition when they are actually allowed to exercise their control means that when all circumstances will be in their favour (Peters et al, 1998). Human beings show an inherit bias towards information selection and perception of risk while buying and selling the stocks. Investors are also affected by their feelings and illusion of control on an uncertain situation (Hogarth & Makridakis, 1981). For example when the value of an outcome will be high, it will increase the chances of achieving that outcome but these uncertainties become inhibitor in the rational action mode of investors (Morlock, 1967).

The basic perception of investors during decision making process is the division of investment among risky assets and the assets which have fix return. It has been observed that illusion of control reduced when investors want to get more control, in less or more controlled investments they always face loss in risky securities (Charness & Gneezy, 2003). Taylor & Brown (1988) stated that human beings reveal excessive self -valuations and overestimation of control on uncontrollable occasions. Such individuals consider themselves as more talented and more skillful. Wood (1997) found that most investors think

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

that their tendency to select investment is better than average. So, in case of investment decisions overly self estimations make obvious itself as a skill to overvalue the performance of a person's own investment and investors with illusion of control exaggerate the future performance of their investment. Simon et al, (2000) proposed an analytical overview about psychological mistakes, such as illusion of control influence the selection of options as people take their beliefs as facts and thus consider less risk and uncertainty associated with their investment. They found that illusion of control play a very significant role in the decision making process. The belief of an investor in his capabilities to control the output of an investment influences his goal of earning maximum return but the investor's confidence in the capacity to control is based on the illusory beliefs and inaccurate perceptions (Boyd & Vozikis, 1994). Hence, it is proved that investors who believe in controlling the future make irrational and biased decisions.

H2: There is a significant relationship between illusion of control bias and investment decision.

Emotion as a Moderator

The emotions have been rendered as the contradictory of rationality. Emotions are considered a source of unwanted bias (Damasio & Damasio 2005). According to many behaviorists, emotions play an important role as interfering the rational investment. Emotions influence the decision making performance as positive and negative feelings make decisions biased and irrational (Mayer et al 1990). Ashkanasy & Humphrey (2011) found that rational decision making phenomena and emotions can never be correlated. It was observed that investors struggle for rationality but the rational decision should be free from the involvement of emotions.

Braverman & Evans (1990) argued that individuals having positive feelings consider the chances of gains more confidently and are more willing to make investments in risky stocks which have more chances of loss. They seek risk and avoid investing in those stocks which have small chances of loss.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Johnson & Tversky (1983) described that negative emotions induce individuals to perceive uncertainty more pessimistically and suggest less opportunities of gains. It can be described by mood congruency theory which proposes that insights and judgments of individuals with negative emotions are biased. The negative emotions make individuals' choices bias towards a highly risky stock selection which includes high return as their wish to win is overwhelming their conflicts to lose. Isen (1987) analyzed that positive feelings not only manipulate the rational decision making process, but also influence the method of information processing in risky circumstances. It has been found that investors having positive emotions are less encouraged to process information and prefer an easier, short cut method and make a decision faster which results in negative output.

William & Colleagues (2003) noticed that investors with negative emotions consider risk related stocks more negatively and prefer to choose a safe stock as they became more careful while selecting stock to avoid a possible loss. The severe negative feelings increase short term estimation of future outputs as compared to long term negative results (Gray 1990). Ketelaar & Clore (1997) stated that the most common problem faced by investors is that they have vast choices related with each stock having different benefits and disadvantages making it more difficult task or even impracticable to select a particular stock within a given time frame. Happy and unhappy feelings make investors to solve this issue by utilizing different frameworks of mind which in turn enhance their abilities and skills for making more optimal decision. The emotions have strong impact on the methods of investors how they practice information during decision making phenomena.

H3: Emotions have significant relationship with investment decisions

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

How Emotions Moderate The Relationship Of Overconfidence And Investment Decisions

The psychologist argued that the decisions of investors are also influenced by emotional factors of investors. Emotions influenced the psychology of investors during decision making process. Emotions are defined as the multi - dimensional phenomena which uncover the human thoughts over time (Larsen & Fredrickson, 1999). MacGregor (2002) defined emotions as feelings which happen rapidly and repeatedly and refer to the quality of goodness or badness and occur without consciousness. Emotions are both mental and physiological feelings consist of biased skills and behavioral changes. People are not able to prevent or direct emotions and they also have no ability to resist them (Blarney, 1998). Emotions show the internal feelings of a person and strongly affect the choices of an individual. The decision making process of all individuals based on the evaluated assessment of offered choices which is related with the internal feelings of individuals (Mitchell, 2011).

According to Loomes & Sugden (1982) the choices of investors are shaped by different feelings and raised by comparing the expected returns of two different stocks as emotions are considered a hurdle for rational decision making. It is a fact that emotions and mental thoughts of an investor play a significant role in the investment decisions because it has been observed that investors deviate from pure rationality due to these positive and negative thoughts. The economic decision model states that human beings always make rational decisions, although this theory doesn't consider the emotional factors of individuals but it does not mean that emotions are totally overlooked in recent economic investigation. The modern economic theory focused on emotions and proposed that it is important to understand how a person feel and behave during decision making process (Kaufman, 1999). The judgment criteria of individuals are highly influenced by emotions while making choices. Duwfenberg (2002) studied the optimal level up to which emotions can influence decision making process of investors. He explored the

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

relationship between emotions and economic decisions and concluded that emotion is a significant factor which influences the attitude of investors while picking stocks.

H4: Emotions significantly moderates the relationship of overconfidence and investment decision.

How Emotions Moderate The Relationship Of Illusion Of Control And Investment Decisions

Weiss & Cropanzano (1996) proposed a model called affective events theory which states that feelings influence the ways of investors for controlling the future events and concentrate on the arrangement, reasons and results of the emotional experiences at the time of decision making process. The stability of any prevailing situation also controls the happening of positive and negative emotional events. Illusion of control is a very common predisposition bias even in purely probabilistic situation. These biases are specially expected to happen in those situations which are recognized by the involvement of individuals and knowledge of expected output. The individual based aspects that influence illusion of control include emotions and need for control. Abramson (1979) found that in many circumstances happy investors are more inclined to exaggerate their control whereas emotionally disturbed investors have more practical assessment of their skills to control an output. But Viscusi (1981) analyzed that the investors with unpleasant feelings make more control predictions and judgments. It has been observed that individuals having strong will to control may also direct investors to overestimate the outcomes.

Several past researches measured that positive emotions direct an investors towards more irrationality and biasness. For example, Ilies & Judge (2005) examined that individuals having positive emotions are more likely to increase their level of attempts and are more encouraged to face challenging goals. When an individual has negative feelings it represents a risk for accomplishing the desired objectives and the circumstances should be handled with care and full attention. However emotions make people to

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

consider that the situation is secure and the result will be in their favor. Hence investors consider their feelings as a signal to confirm that their thoughts are accurate for predicting the future return and they can control the judgments for decision making (Bless & Forges 2000). It has been found in previous studies that human beings in sad mood make less mistakes and show better performance as they efficiently use their memory for precise information than desires for controlling the selection of a stock for making investment. But investors in pleasant mood make more mistakes and rely more on their perceptions of control as they less remind the task information (Schwarz 2001). The investors who are high in positive emotions often ignore the benefits associated with a stock as they misinterpret the future returns in their pleasant feelings and make biased decisions while the investors having negative emotions try to interpret expected returns accurately and make less biased decisions because they are already having sad feelings and do not want to lose their money by picking a stock having volatile returns so they choose a safe stock (Roberts 2008).

H5: Emotions significantly moderate the relationship of illusion of control and investment decision.

Methodology:

Target Population and Sample Size

In order to test the proposed hypothesis, the selected population was the individual investors associated with the Islamabad Stock Exchange (ISE). Sampling category was the probability sampling. Sample size was 200 consisting of randomly selected individual investors from ISE including both males and females. Sample size has been selected on the basis of availability of data and it represents the population nicely. Overall from 230 questionnaires distributed I received 200 usable questionnaires showing response rate of 86.956522.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Data Collection

Data required for this study is primary in nature as the data is collected using the questioner tools. The mode of distribution was one to one by direct interaction with the respondents. The three weeks has been utilized for collecting data. A brief description of research aim was given on the first page of questioner but before distribution of questioners the detailed overview of the topic was again addressed. The respondents were made sure regarding their confidentiality.

Measurement of Variables

Questioner has five parts. First part consists of demographics including age, gender and educational background. Second part is the scale for measuring biases which are overconfidence, and illusion of control. This scale consists of '5' questions for overconfidence bias and'3' questions for illusion of control. The measure used for biases was adopted from famous book of Pompian 2006, "Behavioral Finance and Wealth Management". The third part includes emotions scale (PANAS: Watson, Clark & Tellegen, 1988). This scale consists of few words which describe both the positive and negative feelings of individuals at a particular instant. Final section has been developed by Wayana (2007) consisting of '14' questions for measuring the behavior of investors while making decisions in stock market. The most common measure of reliability is Cronbach's Alpha. Kline (1999) concluded that in general case the value of 0.8 is acceptable for Cronbach's Alpha. He further added that for psychological construct value even below of 0.7 be expected. The copy of questionnaire is attached in appendix.

Reliability of Questionnaire

The reliability score of scales used for the measurement of variables is given in following table:

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Table 3.1

Scale Reliabilities

Scale	Cronbach's alpha	No. of items
Overconfidence	.828	5-items
Illusion of control	.739	3-items
Emotions	.977	20-items
Investment decisions	.717	14-items

The Chronbach's alpha coefficient of four independent, two moderators and one dependant were obtained. The calculated reliability values of all variables were given in Table 1. The Chronbach's alpha values for all scales are with above .7 except risk taking which has .631. Hence the Chronbach's alpha values are showing that all scales are reliable.

Research Model

Empirical Testing of Moderating Role of Emotions on the Impact of Overconfidence, Illusion of Control, Excessive optimism and Risk Taking on investment Decision.

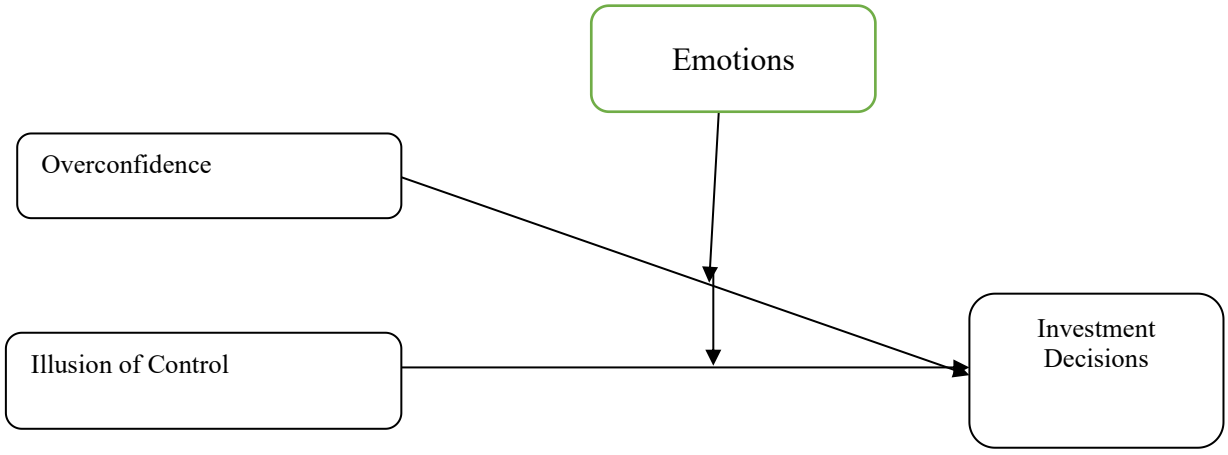

Fig1: Does Emotions play any role to reduce the Behavioral Biases of Investors

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

The structural form of model to check the direct relationship is

$$ID_i = \beta o + \beta_1 OB_i + \beta_2 IOC_i + \beta_3 EOP_i + \beta_4 RT + \varepsilon_i \quad (1)$$

Where:

ID= Investment Decisions

OB= Overconfidence Bias

IOCB= Illusion of control Bias

EOPB= Excessive optimism Bias

RT = Risk taking

E= Error Term

To check moderating impact of emotions, following equations with interactive terms will be used.

$$ID_i = \beta_o + \beta_1 OB_i + \beta_2 IOC_i + \beta_3 EOP_i + \beta_4 RT + \beta 6 OBi*Ei + \beta_2 IOCi*Ei + \beta 8 EOPi*Ei + \beta 9 RTi*E_i + \varepsilon_i \quad (2)$$

Where:

ID= Investment Decisions

OB= Overconfidence Bias

IOCB= Illusion of control Bias

EOPB= Excessive optimism Bias

RT = Risk taking

E= Emotions

e= Error Term

Data Analysis

The gathered data processed using the frequency distribution in SPSS program. The correlation analysis is used to measure the relationship between the variables of proposed model. The multiple regressions has been used to find out how dependant variable (investment decision) is influenced by independent variables (overconfidence, and illusion of control) and how this relationship is moderated by emotions.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Results and Discussion

Descriptive Statistics

The value of descriptive for overconfidence, illusion of control, emotions and investment decisions is presented in the table as.

Table 4.1: Descriptive Statistics (Minimum, Maximum, Mean and Standard Deviation)

Variable	Sample	Minimum	Maximum	Mean	Std. Deviation
Overconfidence	200	1.20	4.80	3.770	.75041
Illusion of Control	200	1.33	5.00	3.6850	.82615
Emotion	200	1.30	4.70	3.0615	1.21856
Investment Decisions	200	1.71	4.64	3.4468	.48567

This table gives the descriptive statistics of the variables under study. The table shows the data related to minimum, maximum and average values for each variable and also shows the mean and standard deviation. The data has been taken as a whole values instead of fractions. The mean value for overconfidence is 3.770 with standard deviation .75041. The mean value for illusion of control is 3.6850 with standard deviation .82615. The mean value for emotion is 3.0615 with standard deviation 1.21856. The mean value for investment decision is 3.4468 with standard deviation .48567.

Correlation Analysis

The correlation is the measurement of the relationship between two or more than two variables. The correlation analysis is used to indicate the relationship between variables or to identify that the two variables move in similar or opposite direction.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Table 4.2

Correlation

	1	2	3	4	5	6	7
Age	1						
Gender	.168*	1					
Qualification	.155*	.021	1				
OC	.153*	.002	.156*	1			
IOC	.220**	.067	.092	.625**	1		
EM	-.055	.031	.048	.413**	.506**	1	
ID	.055	.042	.010	.609**	.687**	.686**	1

*. Correlation is significant at the 0.05 level (2-tailed).

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

The correlation analysis of dependent variable (investment decisions) with demographic factors shows that gender (r=-.042) has weak and insignificant relationship as well as qualification (r=.010) and age (r=.055) have positive and insignificant relationship with the investment decisions. The two independent variables overconfidence (r=.609** p<.01), and illusion of control (r=.687**, p<.01) have strong and significant relationship with dependent variable (investment decisions). The moderating variable emotion (r=.413**, p<.01) has positive and significant relationship with independent variable overconfidence. For illusion of control it has value (r=.506**, p<.01) which shows that it has also positive and significant relationship with moderator (emotion). The correlation of emotion with investment decisions was positive and significant at the significance level of (r = .536**, p<.01) which shows that moderator (emotion) strongly correlate with dependent variable (investment decisions).

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Regression Analysis

To identify the relationship of independent value on dependent value Regression analysis was used. The regression analysis is used to identify how the value of dependent variable changes when one of the independent variable is varied and all other independent variables are held constant.Table 4.3 shows the results of regression analysis for separately all three independent variables.

Table 4.3: Results of Regression Analyses for Outcomes

Predictors	**Investment Decisions**		
	B	**R^2**	**ΔR^2**
Step1			
Control Variable		.064	
Step 2			
Overconfidence	.196**		
Illusion of control	.266**		
Emotions	.132	.780	.059

n=200 (Pakistan), control variables were gender, age, qualification

+p< .10, *p< .05, **p< .01, ***p< .001

The results of regression analysis shows that overconfidence bias has a positive and significant relationship with investment decisions having Beta value as .196 with p<.01 and t value as 3.159 Hence the results supported the hypothesis that overconfidence is positively and significantly related to the investment decisions. Thus the first hypothesis is accepted. The results of analysis indicate that illusion of control has a positive and significant relationship with investment decisions having beta value as .266 with p<.01 and t value as 3.082. Hence the results prove that illusion of control has a significant and positive impact on investment decisions. Thus the results supported the second hypothesis as well. Emotions with beta value (β = .132, p<.01) has positive and significant relationship with investment decisions.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Therefore the hypothesis 3 considering the relationship of emotions and investment decisions had been accepted.

Moderation Analysis

Moderation analyses were used to find out the interactive results of emotions on investment decisions. In first step all control variable (age, gender, and qualification) were entered. In second step, the independent variable (overconfidence) and illusion of control have been used.

Table 4.4: Results of Moderator Regression Analyses of Emotions

Predictors	**Investment Decisions**		
	β	**R^2**	**ΔR^2**
Moderator Analysis			
Emotions			
Step 1			
Control variables		0.64	
Step 3			
Overconfidence x Emotions	.149**		
Illusion of control x Emotions	-.453	.678	.444

n=200; control variables are gender, age and qualification

+p< .10, *p< .05, **p< .01, ***p< .001

The R^2 value of control variables (gender, age, qualification) for investment decisions was .064. Moderation analysis for checking the relationship between overconfidence and investment decisions shows that interactive term between emotions and overconfidence having values (β =.149, p<.01). Hence, the β value represents that emotions positively and significantly moderate the relationship of overconfidence and investment decisions and hypothesis 4 had been accepted. On the other hand, emotions with beta value (β = -.453, p>0.05) negatively and insignificantly moderate the relationship of illusion of control and investment decisions. Therefore the hypothesis 5 considering that

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

emotions significantly moderate the relationship of illusion of control and investment decisions had been rejected.

Discussion

Based on sample of 200 investors selected from Islamabad stock exchange, the study has attempted to develop an integrated model determining "Does Emotions play any role to reduce the Behavioral Biases of investors. The behavioral biases include overconfidence and illusion of control. Furthermore, the moderating role of emotions have also been taken in account because emotions are an essential part of an individual's internal conditions and have strong impact on the decisions and choices of a person.

Regression results show that overconfidence has positive and significant relationship with investment decision. The findings were in the line with Chaudhary (2013) and Chen, A. Kim et al (2010) that overconfidence bias has a significant positive impact on investment decisions such that overconfidence will make the irrational and biased decisions. For illusion of control the results show that illusion of control has positive and significant impact on investment decisions. The result is consistent with the Moore, Kurtzberg et al (1999) and Bashir et al (2013). The regression results for checking the impact of moderator (emotions) on investment decisions proved that emotions positively and significantly impact the investment decisions. The results are in consistent with the studies of Gross & John (2003), Kuzmina (2010) and Bhat & Dar (2012).

The 4 hypothesis is about the moderating role of emotions in the relationship between overconfidence bias and investment decisions. Results of the study supported this hypothesis as there was a significant impact of overconfidence bias on investment decisions when emotions were used as a moderator. Hence the investors having certain feelings are more overconfident towards their investment decisions. The 5 hypothesis is about the moderating role of emotions in the relationship of illusion of control with investment decisions. The findings for this proposition rejected this

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

hypothesis as there was an insignificant impact of illusion of control on investment decisions when emotions were used as moderator. The reason for the rejection of this hypothesis is that it was the first attempt to measure the moderating role of emotions between the relationship of behavioral biases and investment decisions on the basis of gap found in previous studies. On the other hand, it is because of the reason that this research is purely conducted in stock market of Pakistan and previous researchers conducted research in different countries where stock markets have different trends.

Conclusion

Behavioral finance states that investor's investment decisions are influenced by psychological factors like mood, emotion and cognitive biases. Among these, emotions have a powerful impact on investor's investment behavior. Though moods and emotions are practically considered to be the same, there is slight difference between them. Mood is considered to be less intense, whereas emotions are more intense. This study reported that emotions enhance the biasness of investors and push them to make irrational decisions. Emotions enhance the confidence of investors and they think that they can control all uncertain situations which lead them towards losses and irrational investment decisions. In Pakistan, investors prefer to invest in less risky stocks which is due to the financial markets in Pakistan are not well developed as compared to other countries. The Pakistan's economy is not in a growing trend and faced misery conditions so every investor wants to invest in safe stocks which make them highly vulnerable for being influenced by certain psychological factors, positive and negative feeling and other specific feelings.

References

Armor, D. A., & Taylor, S., E. (2002). When Predictions Fail: The Dilemma of Unrealistic optimism in Heuristics and Biases: *The Psychology of Intuitive Judgment*, T. Gilovich, D. Griffin and D. Kahneman (eds) New York: Cambridge University Press.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Ashkanasy, N. M., & Humphrey, R. H. (2011). Current research on emotion in organizations. Emotion Review, 3: 214–224.

Adetiloye, A. K & Babajide, A.A. (2012). Investors Behavioral Biases and the Security Market. An Empirical Study of Nigerian Security Market. *Accounting and FinanceResearch 1*(1)

Ashton, R., & Roberts, M.L., (2005). Effects of dispositional motivation on knowledge and performance in accounting. Working paper, Duke University

Agrawal, Nidhi., & Adam, Duhachek., (2010). Emotional Compatibility and the effectivenes Effectiveness of Anti.Drinking Messages: A Defensive Processing Perspective on Shame and Guilt. *Journal of Marketing Research*, *47* (2), 263–73

Abramson, L.Y. (1979). Judgment of contingency in depressed and non depressed students: Sadder but wiser? *Journal of Expert-mental Psychology*, *108*, 441-487

Andrade, Breinholt. (2011). The Illusion of Control: What's Luck got to Do with It? *The Myriad: Westminster College Undergraduate Academic Journal.*

Alpert, M. & Raiffa, H., (1982). A Progress Report on the Training of Probability Assessors.

Ajzen, I. (1991).The theory of planned behavior. Organizational Behavior and Human Decision process. *Financial Services Review, 17*, 219–236

Botti, L. Briec, W., & Cliquet, G. (2009). Plural forms versus franchise and company-owned systems: A DEA approach of hotel chain performance. *Omega Int J Manag Sci 37*(3):566–578

Braverman, & Evans.(1990). Emotional decisions. *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society*, pp. 426–429

Barsade. S.G., (2008). Human Abilities: Emotional Intelligence. *Annual Review of Psychology*, vol. (**59**):507–536.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Buehler, R., Griffin, D., & Ross, M. (2002). Inside the planning fallacy: The causes and consequences of optimistic time predictions. In T. Gilovich & D. Griffin (Eds. *Heuristic and biases: The psychology of intuitive judgment*. New York: Cambridge University Press

Barber, B.M., & Odean., T. (2001). Boys will be boys: gender, over-confidence, and common stock investment. *Quarterly Journal of Economics, 116*, 261–292

Berkowitz, L., Jaffee, (2001). On the correction of feeling induce Judgmental biases. In J. P. Forgas (Ed.), Feeling and thinking: The role of affect in social Cognition (pp. 131–152). New York: Cambridge University Press

Brienholt , S.C, &, Dalryample, W. (2004). Illusions of control, underestimations, and accuracy: A control heuristic explanation. *Psychological Bulletin*, *123*, 143-161. / Science 185: 1124- 1130.

Berger & Bouwman, (2008). Cognitive Biases, Risk Perception, and Venture Formation: How Individual Decide to Start Companies, *Journal of Business Venturing, 15*: 113-134.

Barber, B.M. & T., Odean. (2002). Trading is Hazardous to Your Wealth: Common Stock Investment Performance of Individual Investors. *Journal of Finance, 55*, 773-806.

Bailey & Kinerson (2005) .Investing in stocks: The influence of financial risk attitude and Values-related money and stock market attitudes. *Journal of Economic Psychology*, *27* (**2**), 285–303.

Barberis, N., & Huang, M., (2001). Mental Accounting, Loss Aversion and individual Stock Return *Journal of finance*, 56(**4**) 1247-1291

Ciarrochi, J. V., (2001). On being tense yet tolerant: The paradoxical effects of trait anxiety and aversive mood on intergroup judgments. *Group Dynamics*: *Theory, Research,and Practice*, *3*, 227–238

Cao, & Han., (2011). Fear of the Unknown: Familiarity and Economic Decisions. *Review of Finance, 15*(1): 173-206

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Ciarrochi, J., (2001). On being happy and possessive: The interactive effects of mood and personality on consumer judgments. *Psychology and Marketing*, *18*(3), 239–260

Cachon, M. P. (2000). Unrealistic optimism, entrepreneurship and adverse selection. Ph.D. thesis, London School of Economics and Political Science

Cordell, D. M. (2001). Risk PACK: How to evaluate risk tolerance. *Journal of Financial Planning*, *14*, 36–40

Damasio, H., Damasio, AR., (2005). Investment behavior and the negative side of emotion. *Psychological Science*, *16*, 435–439.

D.E. Gibson, (2011). Anger and Fear in Decision-Making: The Case of Film Directors on Set. *European Management Journal*, *29*(6): 15.

DeBondt, Werner, F. M., & Richard, H., Thaler. (1995). Financial decision-making inmarkets and firms A behavioral perspective; in Robert A. Jarrow, Voijslav Maksimovic.

Das, TK. Teng., BS. (2001). Strategic risk behavior and its temporalities between risk propensity and decision context. *J Manag Stud,* 38(4):515–534

Dorn, D., & Huberman, G. (2005). Talk and Action.What individual investor say and what they do. *Review of Finance*, 9(4): 437-481

Deck, C. & Gu, J. (2009). Price Increasing Competition? Experimental Evidence.

Egwuatu, P. (2012). Capital market operators seek bailout as illiquidity trails market in 2011.

Evans, J.S., (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annu. Rev. Psychol.* (*59*), 255–278.

Epstein, L. G., & Schneider, M. (2010). Ambiguity and Asset Markets. NBER Working Paper No. 16181

Finucane, M.L., Peters, E. & Slovic, P. (2003). Judgment and Decision Making: The Dance of affect and Reason. In Schneider, S.L. & Shanteau, J. (eds). *Emerging Perspectives*

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

on Judgment and Decision Research. Cambridge, UK: Cambridge University Press , pp 327-364

Forgas, J. P. (2001). On being happy and possessive: the interactive effects of mood and personality on consumer judgments. Psychology and Marketing, 18(3), 239–260

Finucane, M.L., Alhakami, A., Slovic, P. & Johnson, S.M., (2000). The Affect Heuristic in Judgments of Risks and Benefits. *Journal of Behavioral Decision Making*. Vol. (*13*), pp 1-17.

Festinger, L. (1957). A theory of cognitive dissonance. Stanford, CA: Stanford Universit Press.

Goodie, A. S., & Foster, J. D., (2004). Narcissim, confidence, and risk attitude. *Journal of Behavioral Decision Making*, *17*, 297–311

Grandey, A. A.(2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology, 5*(*1*), 95-110.

Gigerenzer.W, (2002) Happiness, Sadness, and Helping: Motivationa Integration, in Handbook of Motivation and Cognition: *Foundations of Socil B.ehavior* Vol. (*2*), Richard Sorrentino and Edward T. Higgins, eds. New York: Guilford. , 527-61

Heaton, J. B. (2002). Managerial optimism and corporate finance. *Financial Management, 31*(**2**), 33-45.

Hirshleifer, (2011). Fear of the Unknown: Familiarity and Economic Decisions. *Review of Finance* *15*(1): 173-206.

Hockey, G. R. J., Maule, A. J., Clough, P. J., & Bdzola, L. (2000). Effects of negative mood states on risk in everyday decision making. *Cognition and Emotion*, *14*, 823–855.

H. Zhang., (2011). Fear of the Unknown: Familiarity and Economic Decisions. *Review o Finance15*(1): 173-206

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Hallahan, T. A., Faff, R. W., & McKenzie, M. D., (2004). An empirical investigation of Personal financial risk tolerance. *Financial Services Review, 13*, 57–78

Jackson, D. N. (1989). Basic Personality Inventory Manual. London, Ontario: Sigma Assessment Systems.

Jackson, D.N. (1994). *Jackson Personality Inventory* - Revised Manual. Port Heron, MI:Sigma Assessment Systems, Inc.

Kaufman, B. E. (1999). Emotional Arousal as a Source of Bounded Rationality, *Journal of Economic Behavior and Organization*, *38*, pp. 135-144.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, *47*(2), 263-291

Knoll, M. A. (2010). Role Of Behavioral Economics And Behavioral Decision Making In Americans'Retirement Savings Decisions. *Social security bulletin*, vol. (***70***), No .4.

Ketelaar, T. (2001). Emotion and reason: The proximate effects and ultimate Functions of emotion. In: Matthews G, editor. Cognitive *science perspectives on personality and emotion*. Elsevier, pp. 355–395. New York

Loewenstein, G. (2000). Emotions in Economic Theory and Economic Behavior. *American Economic Review, 90*(2): 426-432

Langer, E.J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, *32*, 311-328

Leith, K. P., & Baumeiser, R. F. (1996). Why do bad moods increase self-defeating behavior? *Journal of Personality and Social Psychology, 71*, 1250–1267.

Loewenstein, G. (2000). Emotions in economic theory and economic behavior. *The American Economic Review, 90*(2), 426-432.

MacGregor. (2002). The Affect Heuristic. In Heuristics and Biases*: The Psychology of Intuitive Judgment*. Edited by Thomas Gilovich, Dale Griffin, and Daniel Kahneman . New York

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Mitchell, D.G., (2011). The nexus between decision-making and emotion regulation: a review of convergent neuro cognitive substrates. *Behav. Brain Res. 217*, 215–231

Michael, M. Pompian. (2006). *Behavioral Finance and Wealth Management*. Printed in the USA

Meijnders, A. L., Midden, C.J.H. & Wilke, H.A.M. (2001). Role of Negative Emotion in Communication about Co2 Risks. *Risk Analysis*. Vol. (*21*), pp 955-966

Michael, M. Pompian. (2006). Behavioral., How to Build Optimal Portfolios That Accountfor investor Biases. *Behavioral Finance and Wealth Management*

Moore et. al. (1999). Positive Illusions and Forecasting Errors in Mutual Fund Investmen Decisions *Organizational Behavior and Human Decision Processes*, Vol. (*79*), No. 2 PP 95- 114

March, J. & Shapira, Z. (1987). Managerial Perspectives on Risk and Risk Taking*Management Science,33*: 1404-1418.

Medlin, B., & Green, K. W.(2009). Enhancing Performance through Goal Setting, and Engagement and Optimism. *Industrial Management & Data Systems, 109,* 943-956

Michael, J., Roszkowski. (2008). The influence of mood on the willingness to take financial risks

Nofsinger, J. (2002). Do optimists make the best investors? *Corporate Financial Review*, *6* (4), 11-12

Nevins, (2004). Goals-based Investing: Integrating Traditional and Behavioral Finance, *The Journal of Wealth Management*

Norton, G. R., (2000). Future directions in anxiety disorders: Profiles and perspectives of Leading contributors. *Journal of Anxiety Disorders, 14*, 69-95.

Odean, T. (1998) Are investors reluctant to realize their losses? *Journal of Finance, 53*(5), 1775-179

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Postlewaite, Andrew. (2002). Confidence Enhanced Performance. PIER Working Paper, No. 03- 009.

Plous, S. (1993). *The Psychology of Judgment and Decision Making*. New York: McGraw-Hil

Paulus, M.P. (2008). Decision-making dysfunctions in psychiatry –altered homeostatic processing? Science, *318*, 602–60

Phung, A. (2008). *Behavioral Finance, Key Concepts*

Roberts. (2008). Human Abilities: Emotional Intelligence. *Annual Review of Psychology*, vol. (*59*):507–53

Rubinstein, M, Sewell. (2001). Rational markets: yes or no? The affirmative case. *Financial Analysts Journal*, pp. 15–29.

Ritte,r J.R. (2003). Behavioral Finance. *Pacific Basin Finance Journal. 11*(4), 429-437

Rizzi, V.J. (2008). Behavioral Basis of Financial Crises. *Journal of Applied Finance, 8*(**2**).

Riskind, J. H., Sarampote, C. S., & Mercier, M. A., (1996). optimism training. *Journal of Cognitive Psychotherapy*: An International Quarterly, *10*(**2**), 105-117

Richard, JR. (2009). Too much right can make a wrong: setting the stage for the financial crisis FBR of Chicago Working Paper, No. 2009-18

Rahman, S., S ahakia, J., Cardinal, N., & Rogers, R., Robbins, T. (2001. Decision making an neuropsychiatry. Trends. *Cogn. Sci. 5*, 271–277

Shiller, R.J. (2000). Irrational Exuberance. Princeton, NJ: Princeton University Press.

Singh, R., & Bhowal, A.,(2008). Risk Perception the theoretical kaleido scope vaniya, *Journal of economic and Behavioral studies, 18*,54-63

Sjoberg, L. (2007). Emotions and Risk Perception. *Risk Management*. Vol.(9), pp 223-**237**

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Seligman, M. E. P., Kamen, L. P., & Nolen-Hoeksema, S. (1988). *Explanatory style across The lifespan*. In E. M. Hetherington, R. M. Lerner, & M. Perlmutter (Eds.), pp. 91– 114). Hillsdale, NJ: Lawrence Erlbaum.

Simonson, I. (1989). Choosing based on reason: The case of attraction and compromise effects. *Journal of Consumer Research*, *16*, 158–174

Sleeth, Keeler. (2002). A theory of goal-systems. In M. Zanna (Ed.), 9. *Dispositional Advances in Experimental Social Psychology*, Anger and Risk Decision-Making. New York: Academic Press. pp: 397-420

Shiller. (2000). Human Behavior and the Efficiency of the Financial System.

Shefrin, H. (2007). *Behavioral Corporate Finance*. Decisions that Create Value. Mc Graw- Hill/ Irwin. New York

Shefrin, H. (2000).Beyond Greed and Fear. Understanding Behavioral Finance and Psychology of investing. Botton: Harverd Business School .Press

Shefrin, Hersh. (2003). Beyond Greed and Fear: Understanding Behavioral Finance and the

Psychology of Investing.

Segerstrom, S. C., (2010). Optimism and resources: Effects on each other and on health over

10 years. *Journal of Research in Personality, 41*(4), 772-786

Salovey, P., & Watten, et al. (2011). Influence of mood on health-relevant cognitions. *Journal of Personality and Social Psychology, 57,* 539–551.

Schwarz, N. (2001). Feelings as information: Implications for affective influences on Information processing. In L. L. Martin & G. L. Clore (Eds.), *Theories of mood And cognition: A user's guidebook* (pp. 159–176). Mahwah, NJ: Lawrence Erlbaum Associates.

Skinner, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social psychology*, *71*, 549-570. DOI: 10.1037/0022-3514.71.3.549.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Sarampote, C. S., & Mercier, M. A. (1996). For every malady a sovereign cure: optimism training. *Journal of Cognitive Psychotherapy*: An International Quarterly.*10*(2), 105-117.

Seligman, M EP. (1991). Learned Optimism. New York: Pocket Books

Schaefer, R. E., (1978). What are we talking about when we talk about "risk?" A critical survey of risk and risk-tolerance theories (RM-78-690). Effects of gain and Loss Decision frame on Risky purchase Negotiations *Applied Psychology* 72 (1987) 351-358

Tokyo, Watch. (1997). The determinants of stock market development in emerging economies is south Africa different? IMF Working paper, African Department.

Tracy, Jessica L., & Richard W. Robins. (2004). Putting the Self into Self-Conscious Emotions: A Theoretical Model," *Psychological Inquiry*, *15* (2), 103–25

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, *103*(2), 193–210

Tyzoon, T. Tyebjee. (1987). Behavioral biases in New Product Forecasting. *International Journal of Forecasting*, 3 (1987), 393-404 North-Holland

Thornton, N., & Thornton, C. M. (1990). Explanatory style as a mechanism of disappointing athletic performanece. *Current Directions in Psychological Science, 1*, 143-146

Variance, M. (1989). A Progress Report on the Training of Probability Assessors. In

Kahneman, et. al. 1982): 294-305.

Viscusi, D. (1981). Induced mood and the illusion of control. *Journal of Personality and Social Psychology*, *41*, 1129-1140

Weinstein, N. D. (1983). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39(5), 806–820.

Volume. 4 Issue No. 2 (2025)
Online ISSN: 3006-2047
Print ISSN: 3006-2039

Weber, E. U. (1999). A descriptive measure of risk. *Acta Psychological*, *69*:185–203.

Weber EU. (2003). The utility of measuring and modeling perceived risk. In Choice, Decision And Measurement: *Essays in Honor of R. Duncan Luce* (pp. 45–57), Marley.AAJ (eds).

Erlbaum Mahwah, NJ.

William, W.F., & Colleagues, G.H. (2003). Mood effects on subjective probability assessment, *Organizational Behavior and Human Decision Processes*, *52*, 276–91.

Worthington, H. M., & West, R. (2010). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, *18*, 1–74.

Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, *18*, 1–74

Wayana B (2007). Investor Awareness, Perceived Risk Attitudes and Stock Market Investor Behavior: A case of Vganda Securities Exchange. *Makerere University Business School*

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, (**54**)*, 1064-1070.