

The role of emotional regulations and risk appetite on investment decision

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Abstract

An in-depth knowledge of the financial market and the factors which influence the financial market as well as investors is indispensable for an informed investment decision making. Behavioral finance is an emerging field of financial study which analyses the psychological factors which influence the investment decisions of investors. Investors are motivated by high return, and hence they look for different investment avenues. For an investor decision making is a continuous process and it significantly impacts the psychology of investors. This study focuses on the rationality of investors and explores the role of emotional regulations and risk appetite on investment decision making process. The findings of the study suggest that psychological factors such as emotion and risk significantly impact the investment decision of investors.

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Introduction

Emotions are very powerful forces of movement in one's life. They are beautiful aspects of human life, without which our life can become boring and routine. To be human is to be associated with emotions. But, if emotions are not controlled, then they can play havoc in human life. Therefore, it is very important to learn how to channelize our emotions for creative and productive way of living. When we analyse the investment decision from the perspective of psychological dimension, we can identify three aspects which play an important role. They are risk taking behaviour, experimental and survivals. This psychological dimension of people can be brought into two dimensions or categories of people: High Resource people and Low Resource people.

Behaviour of the consumer plays an important role in the investment decision. Here, A B C behaviour of the customer plays a vital role. 'A' stands for antecedents or rationalisation, 'B' for behaviour, personality, and optimistic approaches of the consumer, and 'C' for the consequences after the investments. Here risk plays an important role. Among investors we can find two categories: Risk taking and Risk adverse people. These are based on gain or lose theory.

Generally speaking, an investment is understood as the purchase of an asset with the hope that it would create more value in the future. Any action with the hope of raising capital in the future revenue can be considered as an investment. This kind of buying and selling of shares in the stock market generally will boost the economy of the country. As a result, money will be in circulation and companies will be able to raise their capital through IPO and expand their businesses.

Investment decision

The investment made in the current assets or short-term assets is termed as working capital management and it is highly liquid in nature. Before making an investment decision the individual has to go through certain steps to ascertain their potentials. It definitely will help towards making a good decision based on the financial capacity and psychological factors of an individual. First and foremost, investors need to calculate their financial status. Secondly, they need to evaluate their comfort zone in taking up on risk attitude, because investment involves certain kind of risk management as well. Thirdly, they need to identify the kind of market in which they are planning to invest their capital for profit. In addition, the

investor should know the Dollar cost averaging, and needs to evaluate the market at each moment to identify the best time and opportunities in the market. Finally, the investor should be very conscious about the fraudulent activities prevalent in the market.

Decision making (Daniel Kahneman)

Human beings and their decisions are much complicated as well as fascinating. Each investor needs to consider the fact that the world is much more uncertain today than before. Then, where can the investor find trust and make proper decision?

Daniel Kahneman [13] suggests four ways which are essential aspects of decision-making process.

1. Do not trust people but trust algorithms
2. Take the broad view
3. Test for regret. Regret is greatest enemy of good financial decision.
4. Seek out good advice. A good advisor is one who likes you most and does not follow your emotions.

Risk management

The risk factor is very much related to the growth and development of every aspect of human life. In a fast-growing economy, proper risk management is a key for better development and growth. Risk management helps the investor to understand and analyse the risk, and thus reduce its impact, in order to achieve the set goals or objectives. In investment parlance the term risk is positive. Hence, risk is necessary and inseparable from every activity. Risk is very much a part of an investment decision. Investors can be classified into three categories, viz, risk taking, risk neutral, and risk averse.

Emotional factors

Every individual is different from the other due to various factors which influence them personally. In the year 1960 Kahneman and Tversky [14] brought forth the idea of behavioural finance. They were considered to be the fathers of behavioural finance. With their intervention, modern investors have also begun to consider the emotional factors before they

make an investment decision as shown in the figure 1. Behaviour finance is an evolving area which studies the impact of psychological factors on the investment decision of an investor. It's true that emotions and sentiments play an important role in determining the behaviour of an investor. Behavioural finance focuses mainly on areas such as prospect theory, heuristics and biases.

Conceptual model

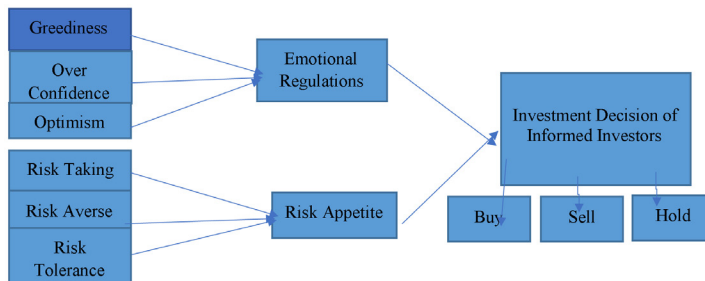


Figure 1
Conceptual Model

Review of Literature

Charles & Kasilingam [3] states that traditionally people collect information and investors follow a rational approach towards investment decision. Now the psychological factors also play an important role in the decision-making process. Emotions and feelings experienced at the time of decision pulls the behaviour of an investor.

Deshmukh & Joseph [4] focuses on the impact of behavioural factors over mutual fund investment decision. It also tries to identify the factors which affect the investment decision of the investors. Psychological factors are the internal basis which result in investment decisions.

Sashikala & Chitramani [5] Investors are in a way bound to be emotional while taking investment decisions. Here the authors try to look upon the relationship between investment behaviour and emotional intelligence. Individual investors are not always rational but rather look at the return. The factor risk effect on the investment decision.

Padma & Rani [6] The equity investor's behavioural factors play a vital role in the capital market. Investment decision also depends on many external economic factors along with behavioural factors. This study looks into three parts; self-efficacy, achievement motivation, and locus of control. These three things have correlation with the investment decision.

Sahu and Kumari [9] Investment decision is one kind of allocation of resource in right place, and a want to lead a life full of luxury and comfort. Investment of money is a sacrifice for the present and securing for the future. The yield is higher, if the risk taken by the investor is higher. Each investor has his or her preference of choice. Investors behave differently to different situations because of a multitude of reasons.

Ullah, Ullah, and Rehman [15] focuses on overconfidence and optimism level of investors, and their impact on the investment decision. People sacrifice today's money for the good return in the future. Based on the optimism level of the individual one is ready to take risk. Risk and return are related to each other. Emotion towards future tends to influence decisions by investors.

Azouzi and Jarbouli [12] examines the relation between managerial optimism and effectiveness on investment decision. Optimistic leaders tend to invest in the market beforehand. They also tend to forecast the market. The study shows that there is a positive relation between investment horizon and optimism to the long-term investment.

Anonymous [10] The recent global financial crisis was due to the fact that the risk taken was neither understood nor was it properly addressed. One possible way to look upon the risk appetite is by using two dimensions viz, capabilities and the applications. Transforming the risk appetite into decision making is a real challenge.

Michael & Moody [8] In the corporate world, enterprise risk management is the key element for long term strategy plan. Risk management reveals the philosophy and it influences the entity's culture and operating system. Risk appetite openly relates to the organisations' strategy and culture.

Manikandan & Muthumeenakshi [2] states that allocation of capital in different schemes of investment leads to the economic growth of the country. Financial system is dynamic in nature because it reacts to the economy to achieve its goals. Investment becomes a perfect investment only when it satisfies the needs of investors.

The risk that may affect the companies are determined by its activities, structure, profile, operating situations etc., as well as the expectation of the company. In order to get the expected return, a particular company has to decide the levels of risk it can undertake. Risk appetite of an organisation may be higher than its risk capacity.

Wong and Carducci [16] examines the relationship between personal financial risk tolerance and personality dimensions. According to the study, there are certain personality dimensions which are positively

related to the personal financial risk, which include extraversion and openness. The study also suggests that males have higher risk-taking attitude than females due to the greater emotional stability of males.

Daniel & Mark [1] points out the importance of financial advising to guide the investors in proper direction. In order to advise investors, one should have accurate knowledge of cognitive and emotional aspect of investors. He also needs to do proper analysis of investors' emotions and interest [1].

Charles & Kasilingam [11] states that individual investment decision is a complex process which includes logic, abstract thought, and planning qualities. It tries to find out the relationship among the behavioural bias factors. Those factors are moods, emotions, heuristics, frames personality, and gambling.

Williams [13] study on the experiences of women with the investment industry shows that gender plays an important role in the investment because women see things in different perspective. The right advisor can guide the informed investor in a proper way. The second step is, 'ask for what you need and want.'

Need for the study

In the current economic scenario investors are looking for different avenues of investment available in the market. In the new investment era, investors consider behavioural finance as well for an informed investment decision. Proper analysis of behavioural finance helps the investor to identify the psychological factors that influence the investment decision. Many studies have been undertaken regarding the emotional factors which influence the investors' investment decision. But only a few studies are available on the emotional regulation and risk appetite on investment decision. The present study focuses on some of the dominant emotional factors and risk involved in the process of making investment decisions.

Statement of the problem

Behavioral finance has gained momentum in recent years and has new paradigms to investment decision behavioral studies. Recent global financial crisis reveals the importance of identifying the factors influencing the investors' behaviour in evaluating the individual investor's investment decision making process. This study is an attempt to analyse and identify

emotional regulation, self-efficacy and risk appetite as variables that influence individual behaviour in investment decisions.

There is always a trade-off between risk and return. If an investor needs return then he/she has to be exposed to risk. To become a better investor, he/she should have a proper balance between risk and return. A deeper knowledge about these variables leads to proper investment decision as well as helping to create more returns for the individual. This study helps to analyse the degree of uncertainty with which an investor can handle the negative changes that occur in the portfolio. To invest one's capital in a portfolio is based on the investor's belief system.

Objectives

Following objectives are formulated with the help of literature review and the research gap identified. This study is intended to verify the following objectives;

1. To find the influence of risk appetite on the investment decision of the informed investors.
2. To determine the role of emotional regulation factors' influence on investment decisions.
3. To verify association between financial awareness and optimism level of the informed investors.

Hypotheses

1. Ho – There is no impact of Risk Appetite on Investment Decision
2. Ho – There is no impact of Emotional Factors on Investment Decision
3. Ho – There is no significant difference in the Risk appetite among the demographic variables
4. Ho – There is no significant association between the choice of Investment Decisions and the demographic variables
5. Ho – There is no significant association between Financial Awareness and Optimism Level
6. Ho – There is no significant relationship between Emotional Regulations and Risk Appetite

Research design

Research design is the specification of methods and ways for gaining the needed information. The design to be adopted here is exploratory research. Here the need is to extract the information about the influence of psychological factors which leads to investment decisions.

Scope of the study

In recent times people study only the fundamental areas of finance. In the present scenario,

people begin to think and identify that it's not only rational way of approach but also certain external factors which influence the investment decision. People are generally drawn towards actions which are based on their first-hand experience, and attitudes towards the risk also play an important role in one's life. It is hoped that the present study would help the investors to think in a positive way, have better experience and successful way of investment.

Population and sampling techniques

The population of the study consists of investors in different investment avenues, mainly investors in stock market, located in Mumbai, Bangalore and Kochi. Snowball sampling technique was adopted to select the sample respondents. The main criteria adopted in the study was that investors who invested more than one year and above. A sample size of 398 investors was taken for the present study. The collected primary data will be statistically processed, classified and tabulated with the help of statistical tools like AMOS, SPSS, and Excel. Tests like CFA using SEM, Chi square, ANOVA, are used in the study based on the requirements to fulfill the objectives of the study.

Limitations of the study

- Discrepancies may arise due to the subjectivity of the respondents.
- The investors are not willing to open their mind fully because they fear some fraudulence might take place.

Research gap

Behavioral finance has gained momentum in recent years and has new paradigms to investment decision behavioral studies. Emotional regulation is the ability to exert control over one's own emotional state. Existing literatures on factors influencing investment decisions, lacks focus on the emotional regulations and the degree of risk appetite of informed investors. Also, Greed, Overconfidence and Optimism which are critical aspects of emotional regulation are not specifically studied in the existing literatures in terms its influence on risk-based decision making and also its association with the demographic variables of the informed investors behaviour.

Analysis and data interpretation

This study was conducted to explore the role of emotional regulations and risk appetite on investment decision. The primary data was collected by using a structured questionnaire and analysed to arrive at the following results.

Hypothesis Testing:

Ho1 – There is no impact of Risk Appetite on Investment Decision

Ho2 – There is no impact of Emotional Factors on Investment Decision

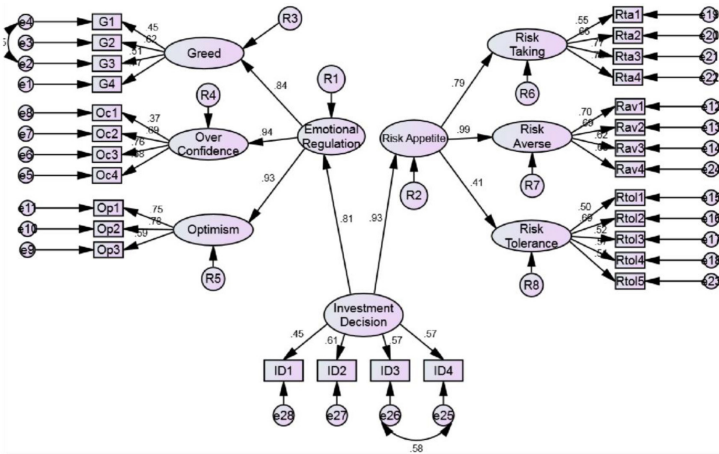


Figure 2

Model 1 arrived during CFA in Amos

The Model fit indices thus arrived are presented below:

GFI – 0.853

AGFI – 0.824

CFI – 0.859

RMSEA – 0.64

CMIN /df – 2.624

The SEM on the model 2 as presented in the above diagram when run in AMOS did not result in much improvement in the model fit indices. Hence, it was decided to make further modifications to the model and to rerun SEM in AMOS for the revised model.

Model 3

The goodness of fit indices did not improve much or did not show much changes. Hence, the Model 1 was retained and the error variables are joined for covariance and the CFA was run once again. The resulting path diagram is presented in the Figure 4.

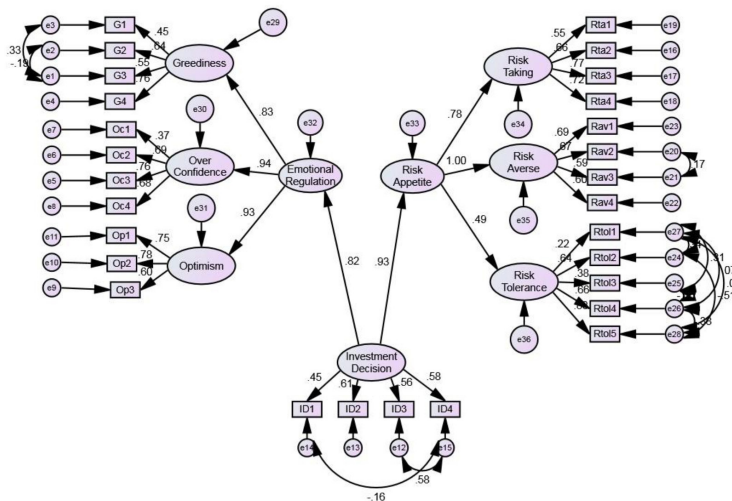


Figure 4

Model 3 arrived during CFA in Amos

The Model fit indices thus arrived are presented below:

GFI – 0.870

AGFI – 0.840

CFI – 0.881

RMSEA – 0.60

CMIN/df – 2.4

Though the model 3 showed some encouraging results, it was decided to modify the model further to improve the model fit indices.

Model 4

The goodness of fit indices improved a bit in Model 3. Hence it was decided to do further modifications to the model. The variables with larger standardized residual co variances were removed and the model was re run in AMOS for CFA. The resulted output is presented in figure 5 where the variables G2, OC1 and ID4 are removed:

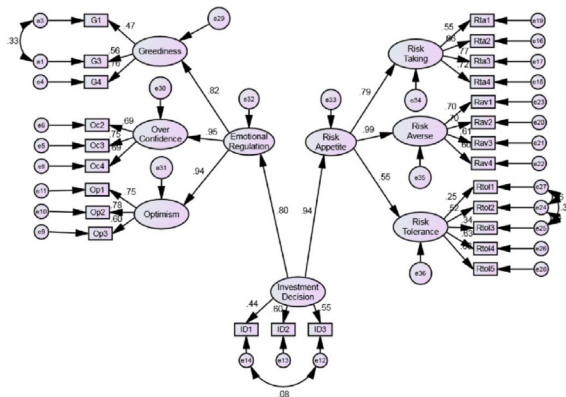


Figure 5

Model 4 arrived during CFA in Amos

The Model fit indices thus arrived are presented below:

GFI – 0.886

AGFI – 0.859

CFI – 0.893

RMSEA – 0.58

CMIN/df – 2.336

The goodness of fit indices showed further improvements in Model 4. It was also noted that the changes improved resulted in improvement in

the factor loadings in the paths of the other variables as well. Hence, it was decided to do further modifications to the model to get a better fit.

Model 5

Based on the values of the Standardized Residual Co-variances in the output summary of Model 4, it was decided to eliminate few more variables with larger values and to check whether it results any further improvements in the fit indices. The variables OP1 and ID3 were eliminated and the CFA in AMOS was re run once again on the model 5. The resulted output is presented in figure 6.

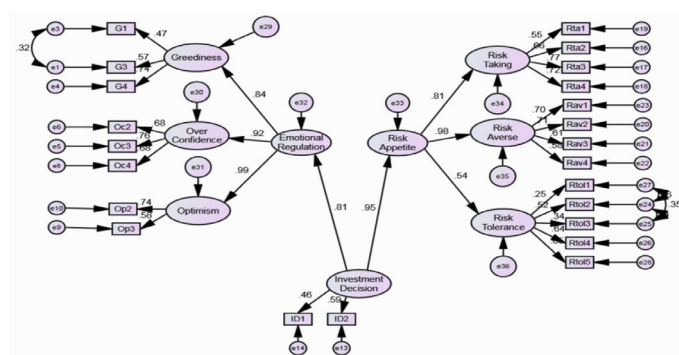


Figure 6

Model 5 arrived during CFA in Amos

The Model fit indices thus arrived are presented below:

GFI – 0.902

AGFI – 0.876

CFI – 0.906

RMSEA – 0.56

CMIN/df – 2.225

As noted bySchreiber et al. [18] and Hopper et al. [19] the model fit indices indicated a satisfactory and good fit. The Model 5 is finalized with a better fitment.

Reliability Tests

The Construct Reliability (CR), Average Variance Explained (AVE), and Cronbach's Alpha were computed from the results. The final output is presented in the below table 1:

Table 1
Reliability Test Results

Dimensions			Estimate	SE	CR	AVE	Cronbach's Alpha
Risk_Appetite	<---	Investment_Decision	0.947	0.119	0.96	0.77	0.887
Emotional_Regulation	<---		0.812	0.005			
Greediness	<---	Emotional_Regulation	0.835	0.13	0.97	0.84	0.822
Over_Confidence	<---		0.92	0.078			
Optimism	<---		0.993	0.005			
Risk_Taking	<---	Risk_Appetite	0.807	0.098	0.96	0.63	0.804
Risk_Averse	<---		0.984	0.014			
Risk_Tolerance	<---		0.539	0.114			

The values of CR, AVE and alpha were very good and met the required threshold values. Hence, the Model and the constructs have a good reliability and validity.

The standardized regression coefficients in the model indicate that Risk Appetite and Emotional Regulations have a very strong influence on the Investment Decisions of an Investor.

The Regression test results are presented below:

Adjusted R square – 0.437

Model Significance – 0.000

Risk Appetite – 0.000 (p value)

Emotional Regulation – 0.000 (p value)

The adjusted R square value of 0.437 indicates that only 43.7% of the variance in the dependent variables is explained and the balance is unexplained. But the model is good, as it is significant even though the R square value is low.

According to Stephanie (2015), VIF values closer to 1 is good and greater than 10 is very bad. In this case both the factors have exhibited a VIF of 1.717 that is closer to 1 and that implies the multi-collinearity is less. Hence, the correlation between the predictor variables are low and hence the multiple regression is reliable.

The factors also showed high significant value. Hence, the hypothesis 1 and 2 are rejected.

Table 2

Factors	VIF
Risk Appetite	1.717
Emotional Regulation	1.717

Ho1 – There is no impact of Risk Appetite on Investment Decision - Rejected

Ho2 – There is no impact of Emotional Factors on Investment Decision - Rejected Thus, it can be concluded that both Risk appetite and Emotional regulation have a very strong influence on the Investment Decision of an investor (Table 2).

One Way ANOVA test Results

Hypothesis 3 is tested using the one-way ANOVA test of difference in means. The Risk appetite is taken as the dependent variable and the demographic factors like Age, Gender etc. are taken as the independent variables. The test results from SPSS are presented in table 3.

Table 3
One-way ANOVA Results

Dependent Variable	Independent Variable	P Value	Result	Conclusion
Risk Appetite	Gender	0.027	Reject Null Hypothesis	There is a difference
Risk Appetite	Age	0.487	Accept Null Hypothesis	No difference
Risk Appetite	Education	0.970	Accept Null Hypothesis	No difference
Risk Appetite	Annual Income	0.277	Accept Null Hypothesis	No difference

The test results show that the risk appetite differs only on the basis of Gender significantly and does not vary based on the various Age,

Education, and Annual Income categories. Hence, the null hypothesis for Gender is rejected whereas for the other demographic variables it is accepted.

Chi Square Test Results: The test of association Chi Square is done to test the association between two categorical variables. Hypothesis 4 and 5 were tested using Chi Square test in SPSS. The results are discussed in the below section:

Ho4 – There is no significant association between Choice of Investment and Demographic Variables

To test hypothesis 4, the Choice of Investment Decision is taken as the dependent variable and the Demographic variables are taken as the independent variables. The test results are presented in table 4.

Table 4
Chi Square Test Results of Demographic variables

Dependent Variable	Independent Variable	P Value	Result	Conclusion
Choice of Investment	Gender	0.000	Reject Null Hypothesis	There is an Association
Choice of Investment	Age	0.002	Reject Null Hypothesis	No difference
Choice of Investment	Education	0.331	Accept Null Hypothesis	There is an Association

The test results show that the independent variables Gender, Age, and Annual Income have a significant association with the Choice of Investment of the investors (Dependent variable). Whereas, the Education qualification of the investors did not show any association. Hence, null hypothesis is rejected with regard to the Gender, Age and Annual Income and the Null hypothesis is accepted for Education.

Chi Square test is also used to test hypothesis 5 that are given below:

Ho5 – There is no significant association between Financial Awareness and Optimism Level

The factor financial awareness is taken as the dependent variable and the Optimism level of the investor is taken as the independent variable for Hypothesis 5. The results of the Chi Square tests from SPSS are presented in table 5.

Table 5
Chi Square Test Results

Dependent Variable	Independent Variable	P Value	Result	Conclusion
Financial Awareness	Optimism Level	0.002	Reject Null Hypothesis	There is an Association

The hypothesis 05 is rejected based on the significant values. It shows that there is a significant association between financial awareness of an investor and the optimism level exhibited by them.

Test of Relationship

Correlation analysis is done to test the hypothesis 7. Correlation test gives the relationship that exists between two continuous variables. Emotional Regulations and Risk Appetite were the two continuous variables that were tested and the results are presented in table 6.

Table 6
Correlation Test Results

Variable 1	Variable 2	P Value	Result	Correlation Coefficient	Conclusion
Emotional Regulations	Risk Appetite	0.000	Reject Null Hypothesis	0.646	There is a strong positive relationship

The results show that there exists a significant and positive relationship between Emotional Regulation and Risk Appetite.

The entire seven hypotheses were tested and the results are discussed in the above section.

5.3 *Discussion*

The study found that the risk appetite varied significantly across the demographic variable Gender. This finding substantiated the earlier studies. The investment strategy depends on the risk appetite, experience etc and that varies across the Gender groups. Both men and women vary significantly in the financial risk appetite.

The finding of the study that Risk appetite and Emotional Regulation influencing the investment decision also substantiated the earlier research works. The Emotional Regulation variables had a significant influence on the Investment decisions. The risk tolerance had a strong influence on the decision-making process of an investor. Bailey and Kinerson [20], also found that the risk tolerance is a very strong predictor of choice behaviour in an investment decision. The findings from the current study thus substantiated the earlier research findings. Also, the current study found that the Emotional Regulation factor and Risk Tolerance are strongly correlated and hence they work in tandem to influence the investment decisions of an investor.

5.4 *Conclusions*

Risk Appetite and Emotional Regulations have a very strong influence on the Investment Decisions of an Investor. Risk appetite differs significantly on the basis of Gender and does not show any variance based on Age, Education and Annual Income of an investor. Emotional stability and risk tolerance are high in male investors compared to female investors. Hence, the investors should be aware of their risk appetite and should understand the difference in their risk appetite based on gender. There is a high chance that the male financial advisors might recommend products that might be beyond the risk appetite of female investors.

The findings of the study suggest that there exists a significant and positive relationship between Emotional Regulation and Risk Appetite. The study has identified three dimensions under the Emotional factors, namely; Greediness, Over Confidence and Optimism which can be incorporated into the 8 variables viz, Impact of Greed, Option for High Return, Motive for Investment (Greediness), Stock buying decision, Impact of skills and knowledge, Market forecast (Over Confidence), Investment opportunity, Indifference towards others misfortune (Optimism). Both emotional regulation and risk appetite have a high significant positive correlation and these two factors work in tandem in determining the investment decisions of an investor.

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